



DATA REPORT AND PROPOSED ADDITIONAL INVESTIGATION

TO: Brandon Pursel, USEPA
Dave Favero, RACER TRUST
Grant Trigger, RACER TRUST

FROM: Mike Smith, Applied EcoSystems, Inc.

DATE: February 21, 2017

SUBJECT: RACER Flint West Industrial Land (#12990)
Summary of Additional Site Investigation

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ATTACHMENTS:

- Attachment 1: Cross Section Diagrams
- Attachment 2: Groundwater Analytical Tables (All investigations conducted by RACER to-date)
- Attachment 3: Groundwater Analytical Laboratory Reports (October, November 2016)
- Attachment 4: Soil Analytical Tables (All investigations conducted by RACER to-date)
- Attachment 5: Groundwater Contaminant Concentration Graphs

1.0 INTRODUCTION

Applied EcoSystems, Inc. (Applied EcoSystems) completed a groundwater monitoring event at the RACER Trust Flint West Industrial Land - #12990 Site on October 27, October 31, and November 1, 2016 as outlined in the August 3, 2016 Data Report submitted to the United States Environmental Protection Agency (USEPA).

A Site Location Map is included as Figure 1. The Site consists of approximately five acres of land located west of Stevens Street and north of Glenwood Avenue in Flint, Genesee County, Michigan. Almost the entire Site consists of concrete pavement, remaining after the demolition of a former manufacturing building. The majority of the Site is secured with a locked chain-link fence.

The Site is developed with a Consumers Energy electrical substation with an equipment shelter in the central portion and a utility conduit shed on the southeast corner. Per John Ebenhoeh with Consumers Energy, the small building on the southeast corner is a shelter for conduits that run under the road to the GM tool and die facility. This building is accessed approximately once per year for approximately two hours. The building in the fenced area is a support equipment shelter for the substation. The fenced area is accessed approximately once per month for approximately two hours, and the building itself is accessed less frequently and for shorter durations.

There were no exceptions to the approved USEPA groundwater monitoring scope of work.

2.0 INVESTIGATION ACTIVITIES COMPLETED

Groundwater Monitoring (Task 6)

- All wells were gauged. No NAPL was encountered.
- All wells were sampled. Samples were analyzed for volatile organic compounds (VOCs), and the following metals (total and dissolved): arsenic, chromium (total and hexavalent), copper, lead, selenium, and zinc. Analytical results are attached. A Soil Boring and Well Location Map is attached as Figure 2. A Groundwater Contour Map, prepared using the October/November 2016 groundwater elevation data is included as Figure 3 in Appendix A. Cross section diagrams, showing soil types, groundwater elevations, and soil and groundwater data, are included in Attachment 1.

3.0 INVESTIGATION RESULTS

Comparison of groundwater data to current (December 30, 2013) Michigan Department of Environmental Quality (MDEQ) Generic Residential and Non-Residential Cleanup Criteria (GRCC) indicates the following:

Metals: Select metals were detected above drinking water and GSI criteria as shown in the table below. The metals concentrations are consistent with expected regional conditions, do not appear to represent a plume, and are believed to be naturally-occurring. Although the MDEQ has published state-wide and regional “background” concentrations for soils, there are no such values published for groundwater. The concentrations are generally consistent with concentrations encountered by Applied EcoSystems at other uncontaminated sites in the Flint area. It is noted that wells MW-105S and MW-106SR are located near the upgradient property boundary. Total metals results appear to have been influenced by turbidity. Accordingly, the dissolved metals concentrations are considered to be more representative of site conditions for the purposes of this assessment.

Table 1.0 – Dissolved Metals Exceedances in Groundwater

Well ID	Metal	Drinking Water Criterion	GSI Criterion	Result
MW-105S	Dissolved Chromium	100	160	407
MW-105S	Dissolved Copper	1,000	20	31
MW-105S	Dissolved Zinc	2,400	260	390
MW106-SR	Dissolved Chromium	100	160	340
MW-106SR	Dissolved Copper	1,000	20	32
MW-108S	Dissolved Arsenic	10	10	15
MW-112S	Dissolved Arsenic	10	10	108

All results are expressed in ug/L

VOCs: Exceedances were present as follows:

Table 2.0 – VOCs Exceedances in Groundwater

Well ID	VOC	Drinking Water Criterion	GSI Criterion	Result
MW-105S	Tetrachloroethane	5	60	34
MW-109S*	Trichloroethene	5	200	119
	Vinyl Chloride	2	13	8
MW-111S	Trichloroethene	5	200	41
	Vinyl Chloride	2	13	72
MW-113S*	Trichloroethene	5	200	50

- All results are expressed in ug/L

- * Located on the former railroad property to the north of Flint West #12990.

Criteria in red indicate an exceedance for that pathway. A table of all groundwater sample analytical results for all groundwater samples collected by RACER is included as Attachment 2. Sample analytical results for the October/November, 2016 groundwater monitoring event are included as Attachment 3. Figure 4 illustrates the GSI and drinking water exceedances in groundwater identified in groundwater samples collected from 2012 through 2016.

The primary constituents of concern are Trichloroethene, Tetrachloroethene, and Vinyl Chloride. Elevated concentrations of Trichloroethene persist in down gradient wells. Tetrachloroethene was not detected in any of the down gradient wells. Note that elevated Tetrachloroethene levels have been consistently detected in one up gradient well, MW-105S since April 2012. While two wells, MW-109S and MW-111S, still exhibit concentrations of Vinyl Chloride above the DW criterion, concentrations of Vinyl Chloride appear to have significantly decreased overall.

Figure 5 is a map showing a summary of drinking water and GSI exceedances in soil from 2012 through 2014. Tables, showing all soil analytical results for samples collected by RACER, are included as Attachment 4. Attachment 5 includes graphs of Trichloroethene and Vinyl Chloride concentrations in MW-109, MW-111, and MW-113 over time.

4.0 PROPOSED ADDITIONAL INVESTIGATION

An additional round of groundwater monitoring is planned for April, 2017. Samples will be analyzed for the same parameters as analyzed for the October/November, 2016 event, including hexavalent chromium if possible, if turbidity levels are low enough.

Other future action is dependent upon MDEQ approval of a groundwater waiver for injection of Hydrogen Release Compound (HRC) as outlined in a Pilot Study Work Plan approved by USEPA on January 13, 2017, and the findings of the pilot study.

5.0 PROPOSED SCHEDULE:

Groundwater monitoring is planned for April, 2017.

A schedule for any other future activities will be developed upon MDEQ approval of the HRC injection pilot study.

FIGURES

SITE LOCATION MAP

RACER Flint West

FIGURE

1

DATE

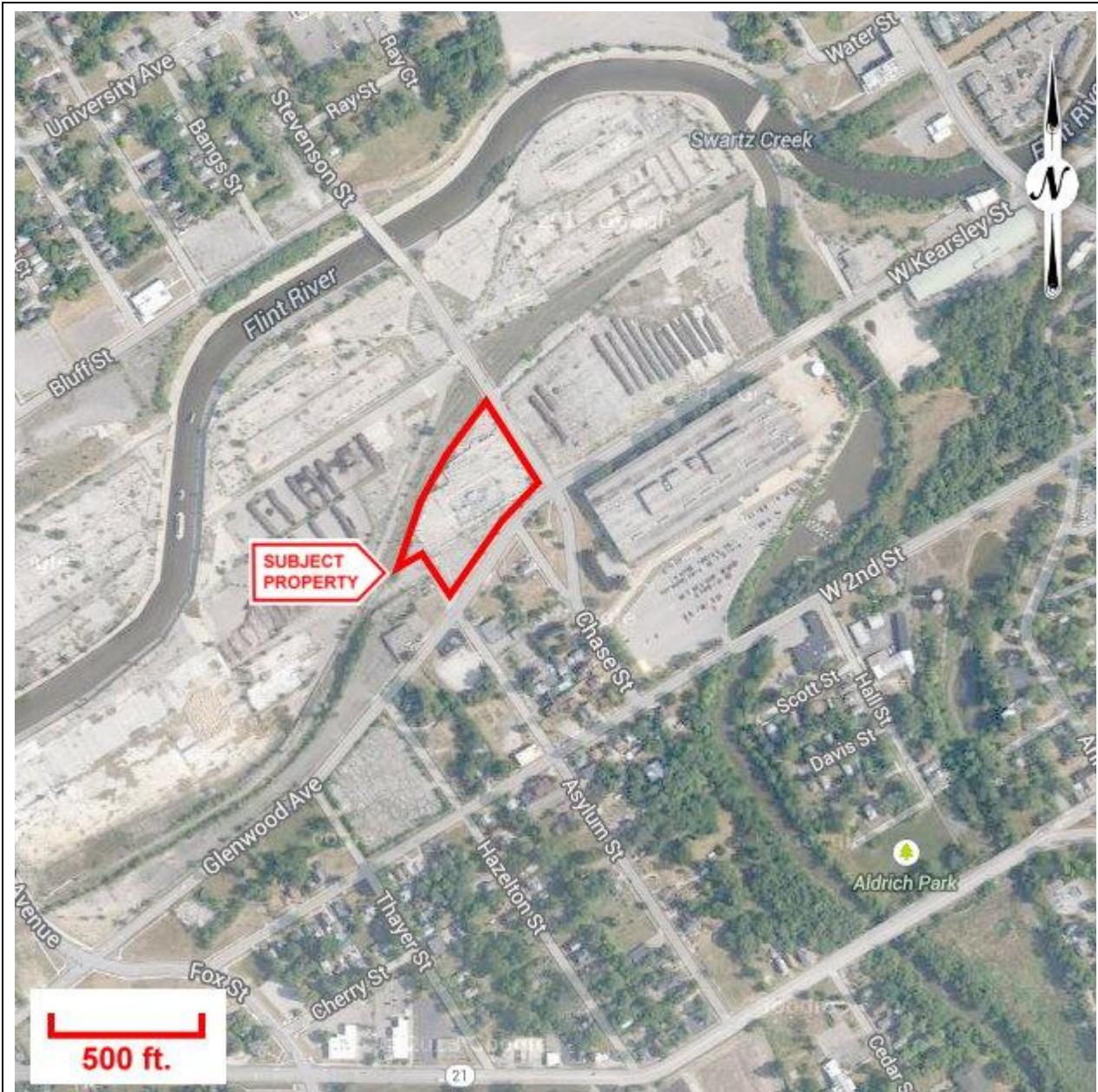
2014

SCALE

As Shown

PROJECT No.

11-4317-102



Source: United States Geological Survey

Property outline is approximate.



Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services

G-4300 South Saginaw Street

Burton, Michigan 48529

(810) 715-2525

FAX (810) 715-2526

www.AppliedEcoSystems.com



Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services
4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

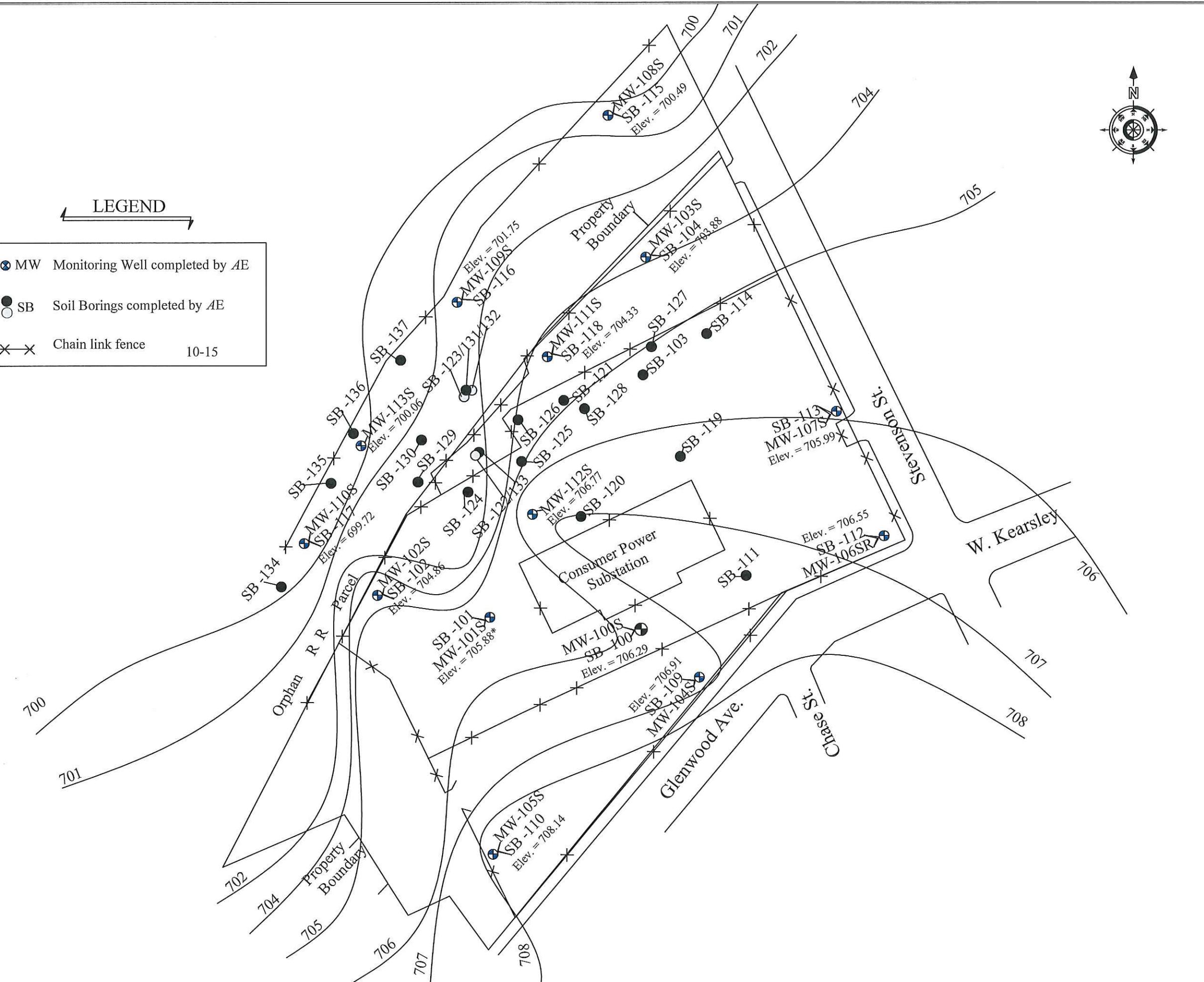
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0 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

Soil Boring and Well Location Map

Racer Flint West - 12990
Flint West Industrial Land, Flint, MI

As Shown
FIGURE:
PROJECT:
2015





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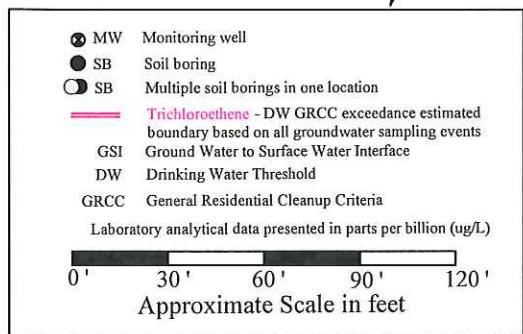
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

**Groundwater Contour Map
October, November 2016**

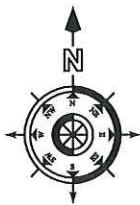
Sampling Event
Racer Flint West - 12990
Flint West Industrial Land Elift M

DATE:	SCALE:
2016	As Shown
PROJECT:	FIGURE:
11-4317-102	3.

LEGEND



Groundwater Sampling Events	
April 2012	1
December 2012	2
April 2013	3
August 2013	4
December 2013	5
April 2014	6
July 2014	7
December 2014	8
May 2015	9
October 2015	10
June 2016	11
Oct./Nov. 2016	12



MW-110S				
ANAL-YIE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	11,41,20,55,30	4,5,6,8,10
Arsenic dissolved	10	10	21,17	6,8
Copper	1000	20	49,63 278,059,736	2,4 3,6,8
Copper dissolved	1000	20	28,90	6,10
Lead	4	44	16,19,61 28,17,24,29,20,3	2,4,5 6,7,8
Lead dissolved	4	44	24,15	6,7
Chromium	100	160	101	5
Zinc	2400	260	556	8
Zinc dissolved	2400	260	373	11

MW-113S					SB-131 TWT				
ANALYTE	DW	GSI	Sampling Event	Exceedance	ANALYTE	DW	GSI	Exceedance	Sampling Event
Zinc	2400	260	7030,504	5,8	Copper dissolved	1000	20	28	6
Zinc dissolved	2400	260	502,317	5,11	Lead dissolved	4	44	16	6
Chromium	100	160	479,2920 132,170,822,22 0	4,5 6,7,8,10	Trichloroethene	5	200	81	6
Chromium dissolved	100	160	128,152	6,7	SB-131 TWB				
Trichloroethene	5	200	21,62,69,61, 36,67,50,50	4,5,7,8 9,10,11,12	ANALYTE	DW	GSI	Exceedance	Sampling Event
Lead	4	44	3310,5,289,50	5,7,8,10	Copper dissolved	1000	20	144	6
Lead dissolved	4	44	5	7	Lead dissolved	4	44	14	6
Copper	1000	20	4160,300,80	5,8,10	Trichloroethene	5	200	78	6
Arsenic	10	10	40,30	8,10					

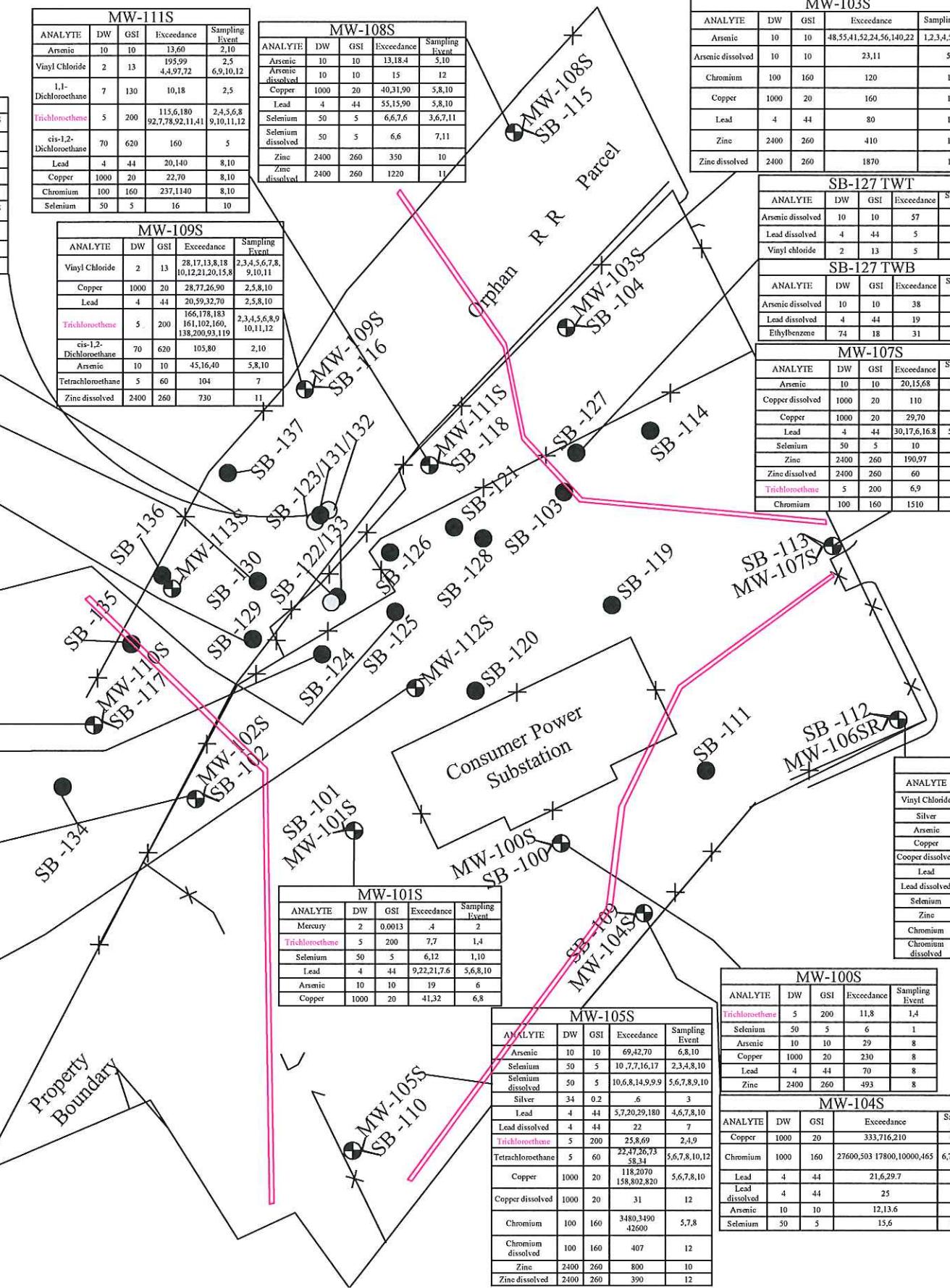
SB-129 TWT				SB-129 TWB				
Analyte	DW	GSI	Exceedance	Analyte	DW	GSI	Exceedance	
Copper dissolved	1000	20	22	6	Copper dissolved	1000	20	24
Lead dissolved	4	44	23	6	Lead dissolved	4	44	11
Iron dissolved	2400	260	323	6	Trichloroethene	5	200	8
Chloroethylene	5	200	8	6				

SB-125 TWT					SB-125 TWB				
ALYTE	DW	GSI	Exceedance	Sampling Event	ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic dissolved	10	10	17	6	Arsenic dissolved	10	10	30	6
					Zinc dissolved	2400	260	400	6

SB-124 TWT					SB-124 TWB				
ANALYTE	DW	GSI	Exceedance	Sampling Event	ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	21	6	Copper dissolved	1000	20	42	6
Lead dissolved	4	44	29	6	Lead dissolved	4	44	47	6
Selenium dissolved	50	5	12	6	Selenium dissolved	50	5	12	6

MW-102S				
ANALYTE	DW	GSI	Exceedance	Sampling Event
Cadmium	5	4.5	65	1
Selenium	50	5	6,16	1,10
Selenium dissolved	50	5	6	7

	Copper	1000	20	25,22,37,4	5,8,10
	Lead	4	44	13,14,20,4	5,8,10
MW-112S					
ANALYTE	DW	GSI	Exceedance		Sampling Event
Selenium dissolved	50	5	102		10
Vinyl Chloride	2	13	8/3/6/21		4,5,6,7
Arsenic	10	10	93,274,169 121,400,235,79		4,5,6,7,8,10,11
Arsenic dissolved	10	10	19,19,20,16,18,108		6,7,8,9,11,12
Lead	4	28	11,257,354 100		4,5,8,10
Zinc	2400	260	929,920,450		5,8,10
Copper	1000	20	418,502,200		5,8,10
Copper dissolved	1000	20	300,115		5,10
Chromium	100	160	256,140,150		5,8,10
Trichloroethene	5	200	24,12		7,11
Vinyl Chloride	2	13	3,4,17		8,9,11



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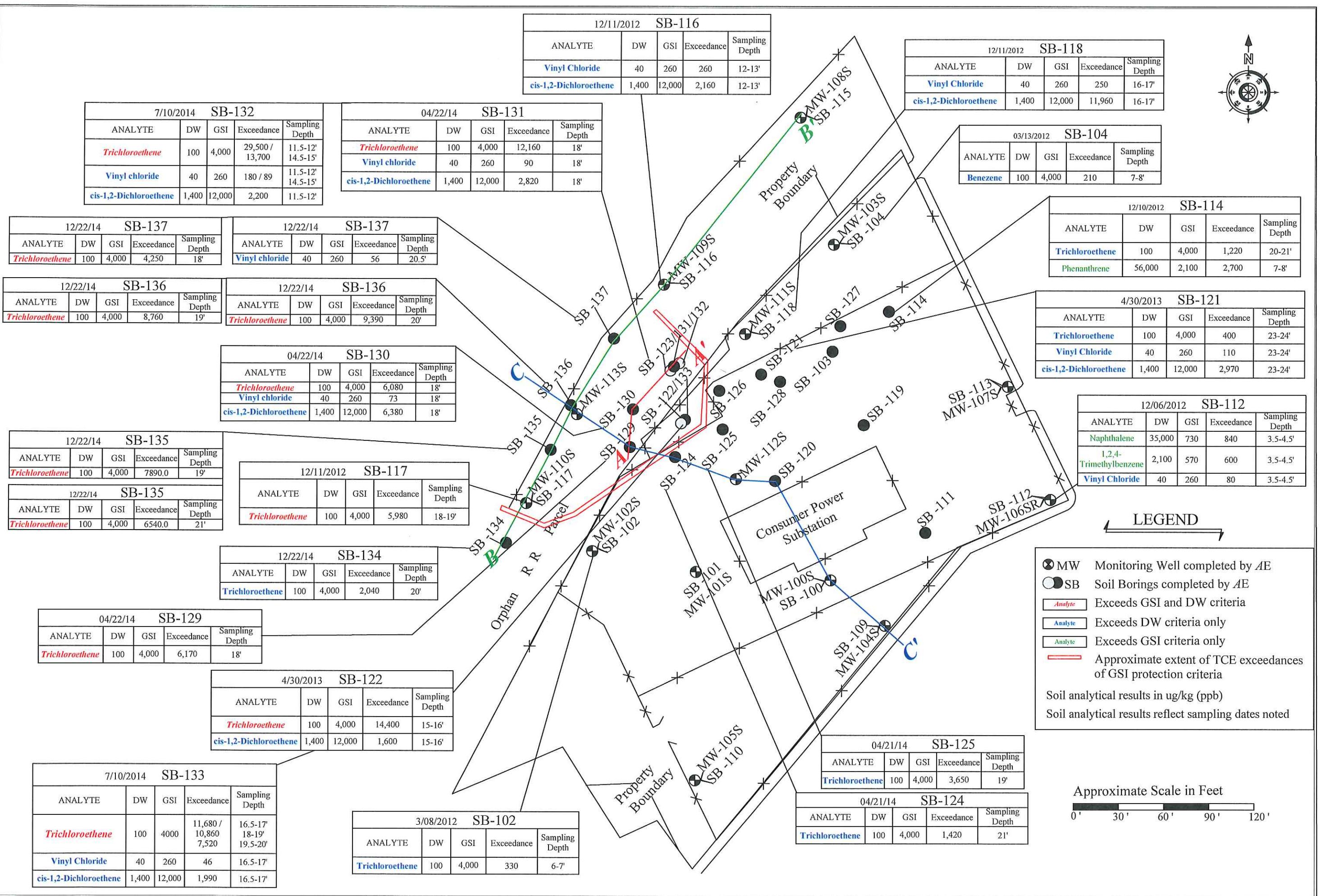
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

Summary of Drinking Water and Groundwater to Surface Water Interface Exceedances in Groundwater

2012 / 2016

DATE:	SCALE:
2012 / 2016	As Shown
PROJECT:	FIGURE:

1



Applied Ecosystems, Inc. Environmental Management, Consulting & Field Services
3-4300 South Saginaw Street, Burton, Michigan 49025
Phone: 810.715.2525; Fax: 810.715.2526

Environmental Management, Consulting & Field Services
100 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

2012 - 2014
Racer Flint West - 12990
Flint West Industrial Land, Flint, MI

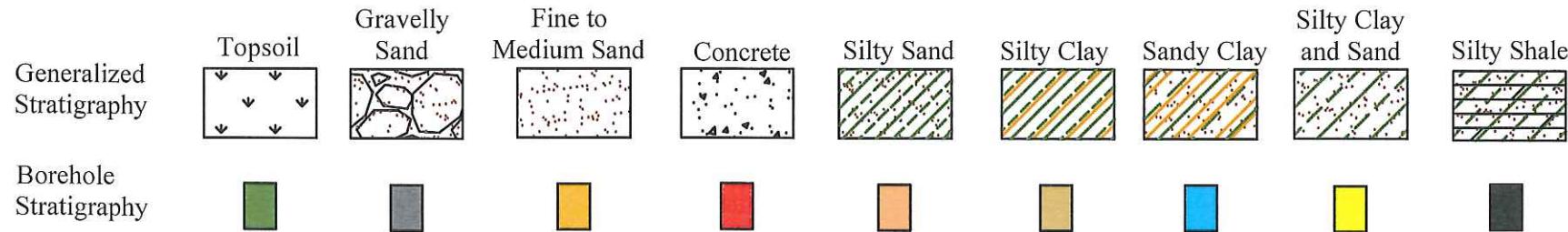
**Summary of Drinking Water and GSI
Exceedances in Soil**

DATE:	PROJECT:	FIGURE:	As Shown	5
2012 - 2014	11-1317-102			

ATTACHMENTS

ATTACHMENT #1: CROSS SECTION DIAGRAMS

Cross Section Diagram Key



DW Residential Drinking Water Generic Cleanup Criteria

⊕ Monitoring Wells Installed by AE

GSI Groundwater Surface Water Interface Generic Cleanup Criteria
GSI criteria calculation based on 257ppm total hardness in the Flint River

Soil and Groundwater analytical results are expressed as defined below;



Dissolved arsenic exceedance above DW and GSI GRCCs



Dissolved copper exceedance above GSI GRCCs



Dissolved lead exceedance above DW GRCCs



Dissolved chromium exceedance above DW GRCCs



Dissolved zinc exceedance above GSI GRCCs



Dissolved selenium exceedance above GSI GRCCs



TCE exceedance above DW GRCCs



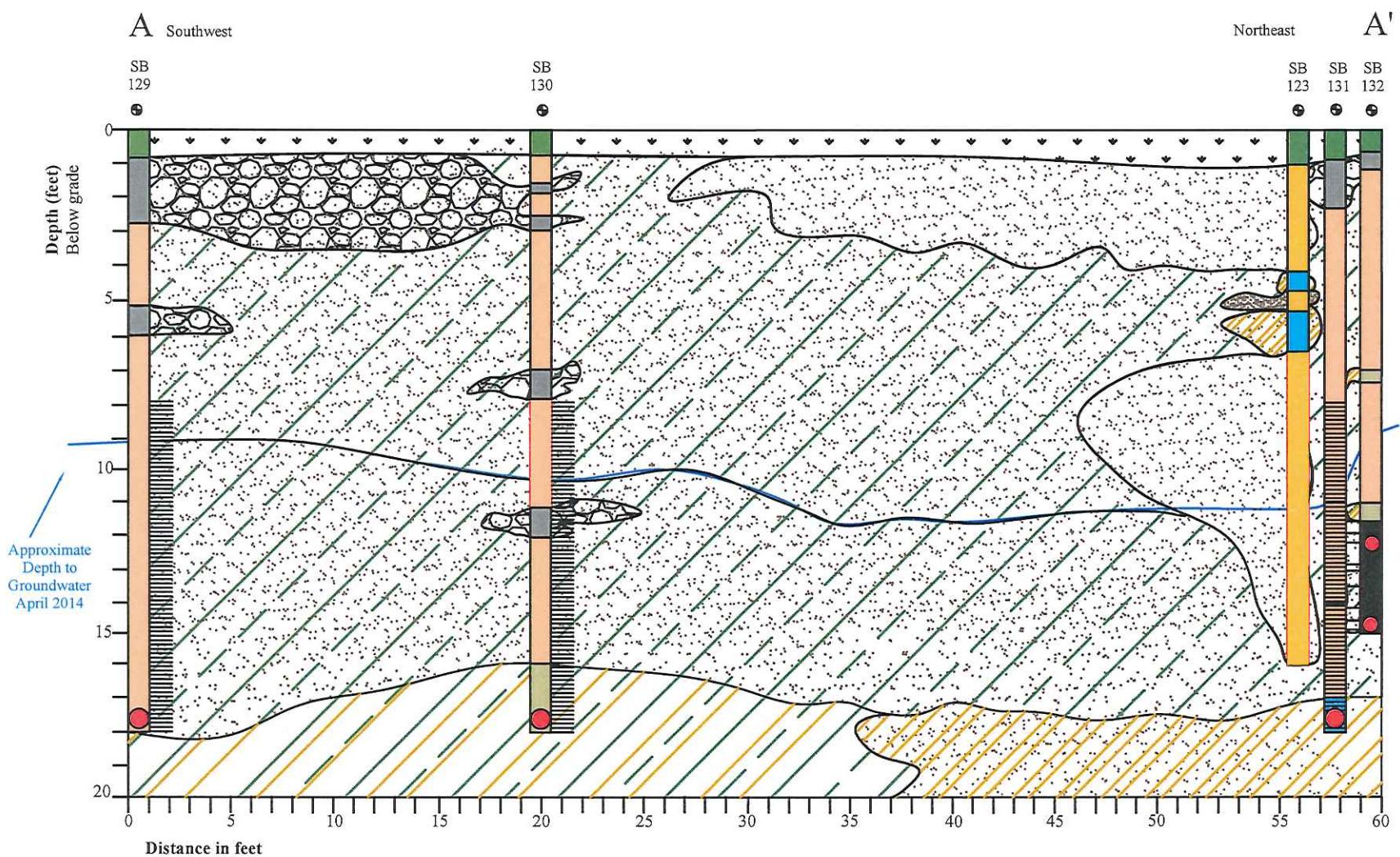
TCE exceedance above DW and GSI GRCCs



Dissolved selenium exceedance above DW and GSI GRCCs

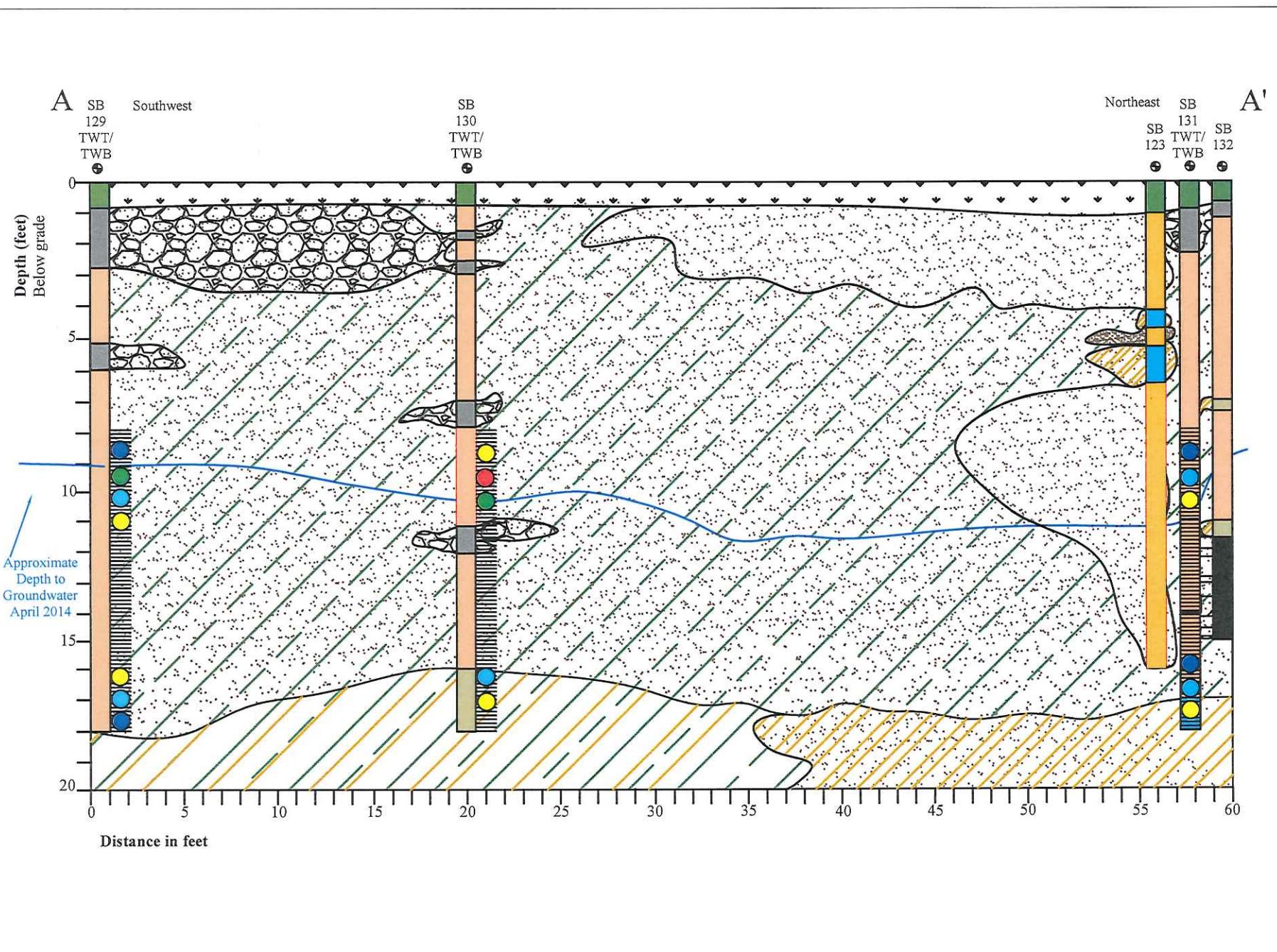


DATE:	2016	SCALE:	None
PROJECT:	Racer Flint West - 12990	Attachment:	1 11-4317-102



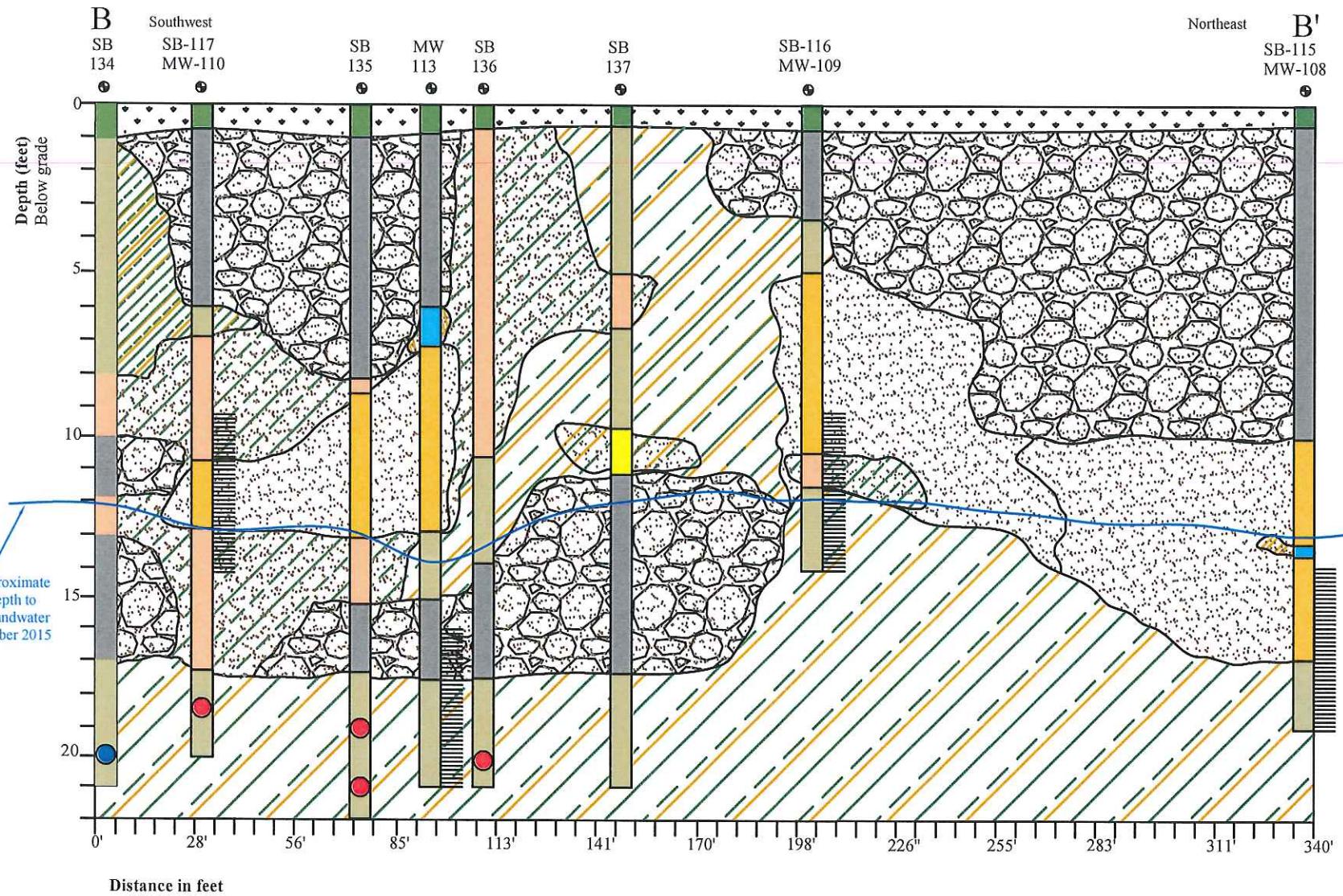
Applied EcoSystems, Inc. Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	Cross Section Diagram A - A' TCE Exceedances in Soil Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	DATE: 2016	SCALE: As Noted
	PROJECT: 11-4317-102	Attachment: 1A (1)	



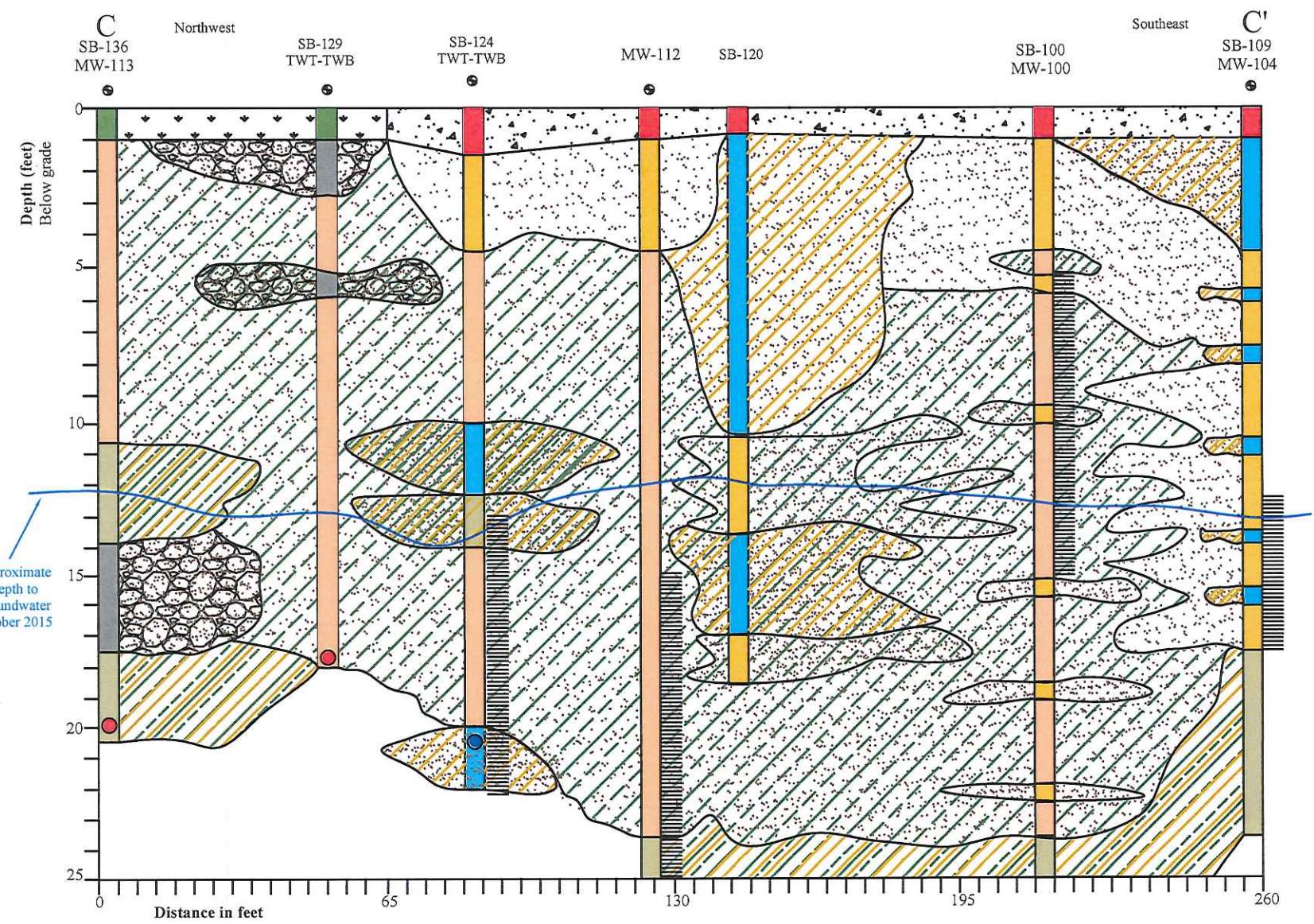


Applied EcoSystems, Inc.	Cross Section Diagram A - A' Dissolved Metals and TCE Exceedances in Groundwater	DATE: 2015	SCALE: As Noted
Environmental Management & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	PROJECT: 11-4317-102	Attachment: 1A (2)

AE

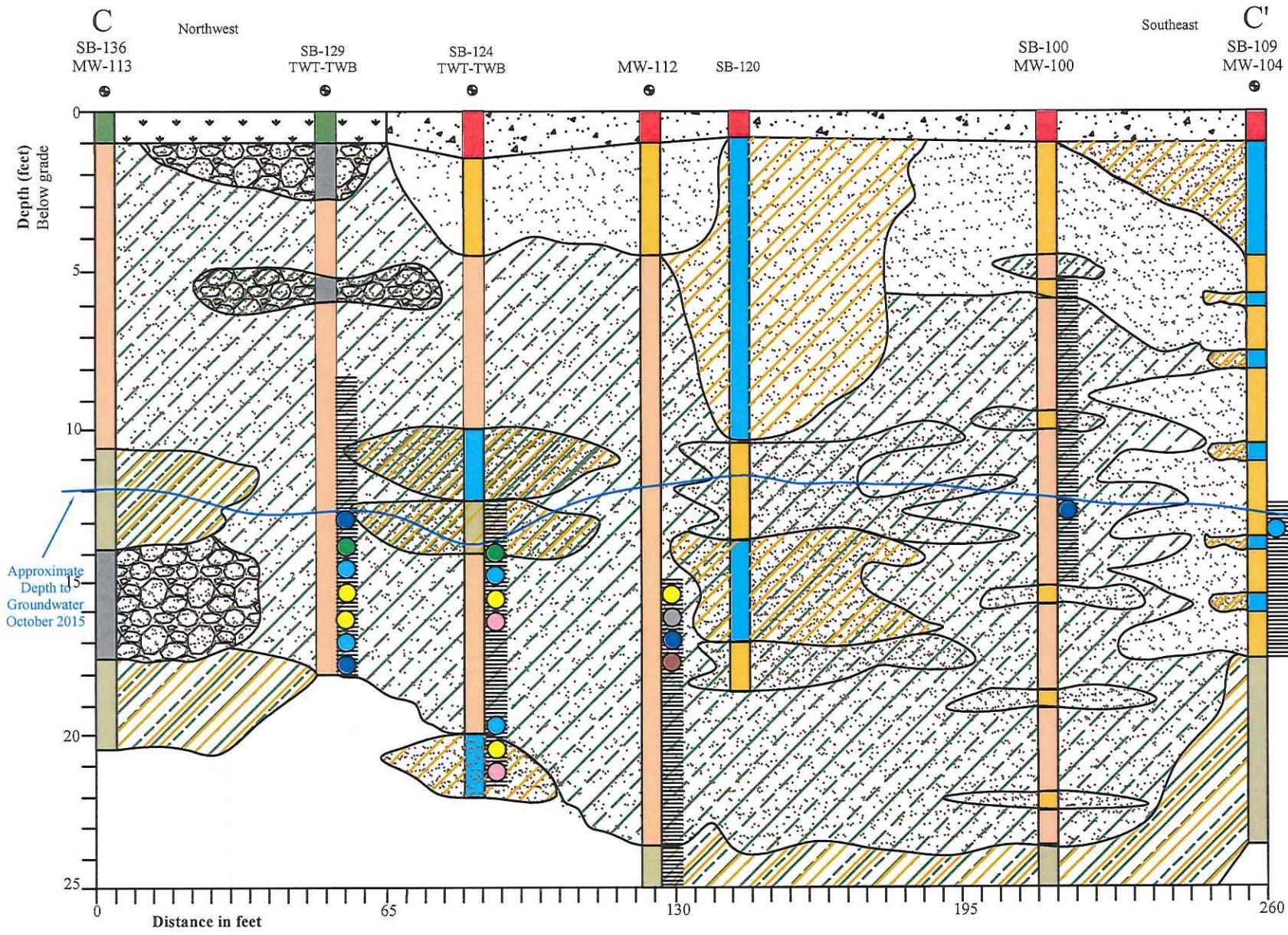


Applied EcoSystems, Inc.	Cross Section Diagram B - B' TCE Exceedances in Soil	DATE: 2015	SCALE: As Noted
Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2325; Fax: 810.715.2326	Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	PROJECT: 11-4317-102	Attachment: 1B (1)



Applied <i>Eco</i> Systems, Inc.	Cross Section Diagram C - C'	DATE:	SCALE:
	TCE Exceedances in Soil	2016	As Noted
G-4300 South Saginaw Street, Burton, Michigan 48329 Phone: 810.715.2525; Fax: 810.715.2526	Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	PROJECT:	Attachment: 1C (1)
		11-4317-02	

A



Applied EcoSystems, Inc.	Cross Section Diagram C - C'	DATE: 2016	SCALE: As Noted
Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	Dissolved Metals and TCE Exceedances in Groundwater Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	PROJECT: 11-4317-102	Attachment: 1C (2)



ATTACHMENT #2: GROUNDWATER ANALYTICAL TABLES

GROUNDWATER ANALYTICAL DATA
RACER - Eject West #12800

	Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	SB124-TWT	SB125-TWT	SB127-TWT	SB129-TWT	SB131-TWT	SB124-TWB	SB125-TWB	SB127-TWB	SB129-TWB	SB130-TWB	SB131-TWB	Dup1	Dup2	Dup3			
	Date Collected		4/3/14	4/3/14	3/29/14	4/3/14	4/3/14	4/3/14	4/3/14	3/29/14	3/29/14	3/29/14	3/29/14	4/3/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14				
ANALYTE (ug/L)	DW	GSI																														
Arsenic (dissolved)	10.00	10.00				11.00									21.00	19.00	17.00	57.00	4.00	3.00	2.00	3.00	30.00	38.00								
Chromium (dissolved)	100.00	160.00	G			35.00			22.00	18.00					7.00	12.00	128.00	13.00		147.00	64.00	25.00	16.00		17.00	89.00	19.00	33.00	14.00			
Copper (dissolved)	1,000.00	20.00	G												28.00		21.00		5.00	22.00	140.00	28.00	42.00		12.00	24.00	94.00	144.00				
Lead (dissolved)	4.00	28.00	G												24.00		29.00		5.00	23.00	208.00	16.00	47.00	1.00	19.00	11.00	31.00	14.00				
Selenium (dissolved)	50.00	5.00								6.00	5.00				5.00		12.00			4.00		12.00				5.00	3.00					
Zinc (dissolved)	240.00	26.00	G			97.00			23.00	5.00	62.00	5.00	16.00	18.00	81.00	21.00	9.00	24.00	311.00	167.00	82.00	323.00	326.00	103.00	241.00	400.00	166.00	68.00	241.00	191.00	12.00	

	Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	SB124-TWT	SB125-TWT	SB127-TWT	SB129-TWT	SB130-TWT	SB131-TWT	SB124-TWB	SB125-TWB	SB127-TWB	SB129-TWB	SB130-TWB	SB131-TWB	Dup1	Dup2	Dup3			
	Date Collected																																
ANALYTE (ug/L)	DW	GSI																															
Acetone	730	1,700		1,13	2,36		0.88	1.82	3.58	3.82		1.22	2.11	0.72	5.17	0.93	5.7			9.1	5.7			10.3	66	25.8	5.9	5.8	1.06				
Methyl iodide	NC	NC																															
Carbon disulfide	800	NC																										0.86	0.4				
2 Butanone (MEK)	13,000	2,200		0.73	0.86		0.41	0.83	0.78	0.94					2.98										11.6	8.6							
Chloromethane	260	NC																										0.33	0.61				
Vinyl Chloride	2.0	13									0.64		18		4	6	0.45		5			2					2		2	4			
Chloroethane	430	1,100													0.6	1.13			1.07									0.77					
trichlorofluoromethane	2,600	NA																															
1,1-Dichloroethene	7.0	130													4	1	0.40			1								0.81		1			
Methylene Chloride	5.0	1,500																															
trans-1,2-Dichloroethene	100	1,500													0.92	0.24	0.23												0.28	0.26			
1,1-Dichloroethane	880	740													0.21	3.00	2	0.69	2.00			3.00						2.00	2.00				
cis-1,2-Dichloroethene	70	620													3	59	46	2	26			0.042	0.69	2	21			0.36	0.93	3.00	21.00	43.00	
Tetrahydrofuran	95	11,000																															
Chloroform	80	350							3.00						0.35	0.35	0.29												0.41	0.29			
1,1,1-Trichloroethane	200	89													0.48	0.75													0.71	0.73			
4-Methyl-2-pentanone (M)	1800	1000000000															0.67			0.390						0.590	2.190						
2-Hexanone	1000	1000000000																0.750								0.210	2.170	4.570					
Carbon tetrachloride	5.0	45																															
Benzene	5.0	200															2														0.16	0.23	
Bromodichloromethane	80.0	NC							0.89																								
Trichloroethylene	5.0	200		3	2										4	102	92	3	23			8	3	81		0.55			8	5	78	86	
Toluene	790	270													0.35	0.63					0.23	0.39	0.20				0.38	0.30	1.00	0.35	0.24	0.44	
Tetrachloroethylene	5.0	60																													0.17		
Chlorobenzene	100	25																															
Styrene	100	80																															
Ethylbenzene	74	18																														0.11	
Total Xylenes	280	41																													0.79		
1,2-Dichlorobenzene	600	13																															
1,2,4-Trimethylbenzene	63	17																													0.22	0.31	
1,2,3-Trimethylbenzene	NC	NC													0.07	0.07													0.20	0.18			
Naphthalene	520	11																													0.75	1.68	0.55
2-MethylNaphthalene	260	19																													0.47	0.88	0.47

NOTES:

Blank cells indicate no detectable concentrations

Exceeds residential and non-residential DW criteria

Exceeds GSI criteria

Exceeds both DW and GSI criteria

Compound also found in associated method bla

Insufficient data to develop criterion/no criterion

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID		MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2	Dup3
	Date Collected		6/25/14	6/25/14	6/25/14	6/26/14	6/25/14	6/26/14	6/25/14	6/25/14	6/26/14	6/26/14	6/26/14	6/26/14	6/25/14	6/26/14			
ANALYTE (ug/L)	DW	GSI																	
Arsenic (dissolved)	10.00	10.00														19			
Chromium (dissolved)	100.00	160.00	G			51											152		
Copper (dissolved)	1,000.00	20.00	G														4		
Lead (dissolved)	4.00	28.00	G					25	22	23					15		5		
Selenium (dissolved)	50.00	5.00				66			8			6							
Zinc (dissolved)	2,400.00	26.00	G	5	11		10				5	7				8	13		

	Sample ID		MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2	Dup3
	Date Collected		6/25/14	6/25/14	6/25/14	6/26/14	6/25/14	6/26/14	6/25/14	6/25/14	6/26/14	6/26/14	6/26/14	6/26/14	6/25/14	6/26/14			
ANALYTE (ug/L)	DW	GSI																	
Acetone	730	1,700		1.74	1.45	2.04	2.67	1.55	1.86	1.59	2.82	1.32	1.47	1.29	1.48	4.93	1.32		
Methyl iodide	NC	NC																	
Carbon disulfide	800	NC														0.42	0.36		
2 Butanone (MEK)	13,000	2,200										0.4	0.65	0.29	0.29	1.99			
Chloromethane	260	NC		0.32					0.34								0.29		
Vinyl Chloride	2.0	13													10		21	2	
Chloroethane	430	1,100															2.9		
trichlorofluoromethane	2,600	NA																	
1,1-Dichloroethene	7.0	130													4		2.00	0.39	
Methylene Chloride	5.0	1,500																	
trans-1,2-Dichloroethene	100	1,500													0.7		0.64	0.24	
1,1-Dichloroethane	880	740															1.00	3.00	
cis-1,2-Dichloroethene	70	620		0.62											3		7	59	
Tetrahydrofuran	95	11,000													70.0				
Chloroform	80	350						5.00		0.22		0.5	0.37				0.320		
1,1,1-Trichloroethane	200	89													0.50			1.00	
4-Methyl-2-pentanone (M)	1800	1000000000															0.83		
2-Hexanone	1000	1000000000															1.46		
Carbontetrachloride	5.0	45													2				
Benzene	5.0	200																	
Bromodichloromethane	80.0	NC					0.82												
Trichloroethene	5.0	200		5	1	3			26		2		104		2	24	69		
Toluene	790	270																	
Tetrachloroethene	5.0	60																	
Chlorobenzene	100	25																	
Styrene	100	80																	
Ethylbenzene	74	18																	
Total Xylenes	280	41																	
1,2 -Dichlorobenzene	600	13																	
1,2,4-Trimethylbenzene	63	17																	
1,2,3-Trimethylbenzene	NC	NC																	
Naphthalene	520	11																	
2-Methylnaphthalene	260	19																	

NOTES:

X	Blank cells indicate no detectable concentrations
X	Exceeds residential and non-residential DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2
ANALYTE (ug/L)	DW	GSI															
Arsenic (dissolved)	10.00	10.00	na														
Arsenic	10.00	10.00	29	4	12	na	12	42	13	2	5	16	17	20	400	11.00	5.00
Cadmium (dissolved)	5.00	4.50	GX	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Cadmium	5.00	4.50	GX	6.90	na	na	na	na	na	na	na	na	na	na	na	na	na
Chromium (dissolved)	100.00	1,600.00	G	na	na	7	na	9	6	15			7	7			10
Chromium	100.00	1,600.00	GX	na	na	62	na	17,800	42,600	68,000	14	19	16	69	237	140	822
Copper (dissolved)	1,000.00	20.00	G	na			na									14,000	11
Copper	1,000.00	20.00	GX	230	32	22	na	716	802	402	29	31	26	736	22	502	300
Lead (dissolved)	4.00	44.00	G	na			na									583	21
Lead	4.00	44.00	GX	70	21	14	na	6	29	44	6	15	32	249	20	354	289
Selenium (dissolved)	50.00	5.00	na				na		14	5							
Selenium	50.00	5.00					na		16	5							6
Zinc (dissolved)	2,400.00	260.00	G	na	66		na	28		15	9	13	11	25	34	9	23
Zinc	2,400.00	260.00	GX	493	74	33	na	29	52	210	27	222	47	556	36	920	504
	Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2
ANALYTE (ug/L)	DW	GSI															
Acetone	730	1,700		1.83	2.77		na									42	
Methyl iodide	NC	NC					na										
Carbon disulfide	800	NC	0.29			na	0.70										
2 Butanone (MEK)	13,000	2,200		0.55		na										24	
Chloromethane	260	NC				na	0.27	0.35		0.33		0.53	0.58	0.88		0.48	0.58
Vinyl Chloride	2.0	13				na			0.58		12			3			
Chloroethane	430	1,100				na										0.88	
trichlorofluoromethane	2,600	NA				na											
1,1-Dichloroethene	7.0	130				na									5		
Methylene Chloride	5.0	1,500				na											
trans-1,2-Dichloroethene	100	1,500				na								0.9			
1,1-Dichloroethane	880	740				na			0.71		1			0.76	0.47		
cis-1,2-Dichloroethene	70	620		1		na			2	0.57	45		1	3	9		0.56
Tetrahydrofuran	95	11,000				na										3	2
Chloroform	80	350				na	3			2	0.18						
1,1,1-Trichloroethane	200	89				na					0.37					0.29	
4-Methyl-2-pentanone (MIBK)	1800	1000000000				na										3.88	
2-Hexanone	1000	1000000000				na										12	
Carbontetrachloride	5.0	45				na				2							2
Benzene	5.0	200				na											
Bromodichloromethane	80.0	NC				na	0.54										0.46
Trichloroethene	5.0	200		2	4	0.36	na			5	160		7	61	0.3		
Toluene	790	270				na									0.22	0.51	
Tetrachloroethene	5.0	60			0.23	na		73			0.2					0.20	
Chlorobenzene	100	25				na											
Styrene	100	80				na											
Ethylbenzene	74	18				na										0.17	
Total Xylenes	280	41				na											
1,2-Dichlorobenzene	600	13				na											
1,2,4-Trimethylbenzene	63	17				na											
1,2,3-Trimethylbenzene	NC	NC				na											
Naphthalene	520	11				na											
2-Methylnaphthalene	260	19				na											

NOTES:

X	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River
na	Sample not analyzed for this constituent

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID		MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2	Dup3
	Date Collected		DRY	4/28/15	4/28/15	4/30/15	4/28/15	4/28/15	4/28/15	4/28/15	4/30/15	4/30/15	4/30/15	4/30/15	4/28/15	4/30/15	4/28/15	4/30/15	
ANALYTE (mg/L)	DW	GSI																	
Arsenic (dissolved)	10	10					6									16		6	
Arsenic	10	10			4		23			5				2	6	277	6	20	
Chromium (dissolved)	100	160	G			22		5	8									10	
Chromium	100	160	G		17	24		1590	829	58300				29	9	73	16		
Copper (dissolved)	1000	20	G																
Copper	1000	20	G		31	9		40	13	306					14	12			
Lead (dissolved)	4	44	G																
Lead	4	44	G		24					26					9	11			
Selenium (dissolved)	50	5							9										
Selenium	50	5							9										
Zinc (dissolved)	2400	260	G		9		8		120		6		9	39	22	11			
Zinc	2400	260	G		9		8		133		6		9	39	22	11			

	Sample ID		MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2	Dup3
	Date Collected		DRY	4/28/15	4/28/15	4/30/15	4/28/15	4/28/15	4/28/15	4/28/15	4/30/15	4/30/15	4/30/15	4/30/15	4/28/15	4/30/15	4/28/15	4/30/15	
ANALYTE (ug/L)	DW	GSI																	
Acetone	730	1,700														10			
Methyl iodide	NC	NC																	
Carbon disulfide	800	NC									0.17					0.16			
2 Butanone (MEK)	13,000	2,200														6.6			
Chloromethane	260	NC		4	6	2	6	5	5	4	4	4	5	5	4	2	3		
Vinyl Chloride	2.0	13								0.6		21		4	4	2			
Chloroethane	430	1,100				0.7									5		0.77		
trichlorofluoromethane	2,600	NA																	
1,1-Dichloroethene	7.0	130											4		0.88				
Methylene Chloride	5.0	1,500																	
trans-1,2-Dichloroethene	100	1,500											1		0.99	0.26			
1,1-Dichloroethane	880	740								0.56		2		2	0.52	3			
cis-1,2-Dichloroethene	70	620								2		51		48	0.66	19			
Tetrahydrofuran	95	11,000																	
Chloroform	80	350					1		0.7		1	0.28		0.29	0.21	0.19			
1,1,1-Trichloroethane	200	89										0.51		0.36					
2-Hexanone	1000	1E+09													3			0.25	
Benzene	5.0	200		0.26		0.23													
Trichloroethene	5.0	200		2	0.51					2		138		78	0.62	36			
Tetrachloroethene	5.0	60								69									
Chlorobenzene	100	25															0.17		
Styrene	100	80				0.15											0.21		
Ethylbenzene	?	?																	
Total Xylenes	280	41																	
1,2 -Dichlorobenzene	?	?																	
1,2,4-Trimethylbenzene	63	17																	
1,2,3-Trimethylbenzene	NC	NC																	
Naphthalene	520	11																	
2-Methylnaphthalene	260	19																	

NOTES:

X	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank
	Date Collected			DRY	10/26/15	10/26/15	10/27/15	10/26/15	10/26/15	10/26/15	10/26/15	10/27/15	10/27/15	10/27/15	10/27/15	10/26/15	10/27/15	10/26/15	10/26/15
ANALYTE (ug/L)	DW	GSI																	
Arsenic (dissolved)	10	10		DRY			4							3.31	0.51	4	1.09		
Arsenic	10	10		DRY	4.3	20	140	13.6	70	53	68	18.4	40	30	60	235	30		
Chromium (dissolved)	100	160	G	DRY	2.39	7.1	0.51		23	128		0.67	0.5	0.66	4.35	0.57	0.76		
Chromium	100	160	G	DRY	49.1	90	120	10,000	16.2	446,000	29.5	70	70	16.4	1,140	150	220		
Copper (dissolved)	1000	20	G	DRY				1.04	1.89	1.5	4.88	2.28	7.11	12	2.85	115	3.13		
Copper	1000	20	G	DRY	14.42	37.44	160	210	820	2,760	70	90	90	70	200	80			
Lead (dissolved)	4	44	G	DRY				1.57		1.11						1.27			
Lead	4	44	G	DRY	7.61	20.45	80	29.78	180	300	16.86	90	70	20.3	40	100	50		
Selenium (dissolved)	50	5		DRY			1.3		1.9	9.9	4.6	2.2	1.4	2	1.2		102		
Selenium	50	5		DRY	12	16			15	17						16			
Zinc (dissolved)	2400	260	G	DRY	35	111	12	42	24	22	17	16	15	19	34	101	84		
Zinc	2400	260	G	DRY	40.3	100	410	160	800	1,600	110	350	230	70	140	450	170		
	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank
	Date Collected			DRY	10/26/15	10/26/15	10/27/15	10/26/15	10/26/15	10/26/15	10/26/15	10/27/15	10/27/15	10/27/15	10/27/15	10/26/15	10/27/15	10/26/15	10/26/15
ANALYTE (ug/L)	DW	GSI																	
Acetone	730	1,700		DRY															
Methyl iodide	NC	NC		DRY															
Carbon disulfide	800	NC		DRY															
2 Butanone (MEK)	13,000	2,200		DRY			1.74										0.82	0.79	
Chloromethane	260	NC		DRY															
Vinyl Chloride	2.0	13		DRY										20		97			
Chloroethane	430	1,100		DRY															
trichlorofluoromethane	2,600	NA		DRY															
1,1-Dichloroethene	7.0	130		DRY									5.3		4	0.76			
Methylene Chloride	5.0	1,500		DRY															
trans-1,2-Dichloroethene	100	1,500		DRY											1		0.27		
1,1-Dichloroethane	880	740		DRY										3.3		2		1	
cis-1,2-Dichloroethene	70	620		DRY								0.42	0.66	80		42	1	23	
Tetrahydrofuran	95	11,000		DRY															
Chloroform	80	350		DRY				2					3						
1,1,1-Trichloroethane	200	89		DRY											0.33		0.45		
4-Methyl-2-pentanone (MIBK)	1800	1E+09		DRY													1.09		
2-Hexanone	1000	1E+09		DRY													1.64		
Carbontetrachloride	5.0	45		DRY									3						
Benzene	5.0	200		DRY			0.21		0.26	0.22							0.2		
Bromodichloromethane	80.0	NC		DRY				0.65											
Trichloroethene	5.0	200		DRY	3	0.68		0.68			2	0.33	200		92		67		
Toluene	790	270		DRY					0.58	0.4	0.31					0.37			
Tetrachloroethene	5.0	60		DRY					58										
Chlorobenzene	100	25		DRY															
Styrene	100	80		DRY															
Ethylbenzene	74	18		DRY															
Total Xylenes	280	41		DRY															
1,2 -Dichlorobenzene	600	13		DRY															
1,2,4-Trimethylbenzene	63	17		DRY															
1,2,3-Trimethylbenzene	NC	NC		DRY															
Naphthalene	520	11		DRY															
2-Methylnaphthalene	260	19		DRY															

NOTES:

X	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

As Erroneously Labeled in May 23, 2016 Laboratory Report																									
ANALYTE (ug/L)	DW	GSI	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank	Trip Blank	Field Blank	Dup1	Trip Blank	Field Blank	Dup2	Dup3
	Date Collected	5/11/16	5/11/16	NS	6/8/16	6/1/16	NS	5/11/16	5/11/16	6/1/16	6/1/16	6/8/16	5/11/16	6/1/16	6/1/16	5/11/16	5/11/16	5/11/16	5/11/16	6/1/16	6/1/16	6/1/16	6/8/16	6/8/16	
Arsenic (dissolved)	10	10			3	NS	6	1.65	NS			0.65	1.21	0.55	18	2.08									
Arsenic	10	10			NS	22	1.62	NS		3		0.96	5	3	1	79	9								
Chromium (dissolved)	100	160	G		NS	1.16	1.19	NS				1.42	1.17	1.77	3.33	1.73									
Chromium (total)	100	160	G	5	13	NS	1	465	NS	77	3	1.91	3.38	1.3	4	4.86									
Chromium VI (dissolved)	100	160				NS																			
Chromium VI (total)	100	160			NA	NA	NS	NA					NA		NA	NA									
Copper (dissolved)	1000	20	G		NS	2.02	0.51	NS				2.32	6	1.49	1.25	0.73									
Copper	1000	20	G	4	7	NS	0.77	16	NS	7	3	1.95	8	0.74	1.38										
Lead (dissolved)	4	44	G		NS	0.278	0.764	NS				0.187	0.325	0.32	0.094	1	0.155								
Lead	4	44	G	2	3	NS	0.105	0.554	NS	2		0.785	2.6		0.5										
Selenium (dissolved)	50	5			NS			NS				6													
Selenium	50	5			NS			NS				6													
Zinc (dissolved)	2400	260	G	21	NS	1870	18	NS				1220	730	373	49	5	317								
Zinc	2400	260	G	11	22	NS	2.46	1.48	NS	12	7	6	10		2.95	7									
Sample ID		MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank	Trip Blank	Field Blank	Dup1	Trip Blank	Field Blank	Dup2	Dup3	
Date Collected		5/11/16	5/11/16	NS	6/8/16	6/1/16	NS	5/11/16	5/11/16	6/1/16	6/1/16	6/8/16	5/11/16	6/1/16	6/1/16	5/11/16	5/11/16	5/11/16	5/11/16	6/1/16	6/1/16	6/1/16	6/8/16	6/8/16	
ANALYTE (ug/L)	DW	GSI	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank	Trip Blank	Field Blank	Dup1	Trip Blank	Field Blank	Dup2	Dup3
Date Collected	5/11/16	5/11/16	NS	6/8/16	6/1/16	NS	5/11/16	5/11/16	6/1/16	6/1/16	6/8/16	5/11/16	6/1/16	6/1/16	5/11/16	5/11/16	5/11/16	5/11/16	6/1/16	6/1/16	6/1/16	6/8/16	6/8/16		
Acetone	730	1,700		2.72	1.62	NS			NS	2.72	2.1		0.6	0.67		4.21				1.98		0.69			
Methyl iodide	NC	NC			NS			NS																	
Carbon disulfide	800	NC			NS			NS																	
2 Butanone (MEK)	13,000	2,200			NS			NS																	
Chloromethane	260	NC			NS			NS																	
Vinyl Chloride	2.0	13			NS			NS																	
Chloroethane	430	1,100			NS			NS																	
Trichlorofluoromethane	2,600	NA			NS			NS																	
1,1-Dichloroethene	7.0	130			NS			NS																	
Methylene Chloride	5.0	1,500			NS			NS																	
trans-1,2-Dichloroethene	100	1,500			NS			NS																	
1,1-Dichloroethane	880	740			NS			NS																	
cis-1,2-Dichloroethene	70	620	0.34		NS			NS																	
Tetrahydrofuran	95	11,000			NS			NS																	
Chloroform	80	350			NS			3	NS			1											0.490	3.000	
1,1,1-Trichloroethane	200	89			NS			NS				0.31													
4-Methyl-2-pentanone (MIBK)	1800	ID			NS			NS																	
2-Hexanone	1000	ID			NS			NS																	
Carbon tetrachloride	5.0	45			NS			NS				2													
Benzene	5.0	200			NS			NS																	
Bromodichloromethane	80.0	NC			NS			0.74	NS															0.710	
Trichloroethene	5.0	200	4	2	NS			NS				4	0.26	93	11	12	50								
Toluene	790	270			NS			NS																	
Tetrachloroethene	5.0	60			NS	</																			

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

NOTES:

	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DV and GSI criteria
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River
NS	No Sample
1	Filtered in lab
2	Filtered and preserved in lab
NA	Not analyzed due to turbidity

Detected Concentrations for compounds also found in the method blank that appear to be laboratory artifacts are not provided.

ATTACHMENT #3: GROUNDWATER ANALYTICAL LABORATORY REPORT



Analytical Laboratory Report

Report ID: S77180.01(01)
Generated on 11/03/2016

Report to

Attention: Mike Smith
Applied Ecosystems
G4300 S. Saginaw St.
Burton, MI 48529

Phone: 810-715-2525 FAX: 810-715-2526
Email: ae_mds@yahoo.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S77180.01-S77180.08
Project: Racer
Collected Date: 10/27/2016
Submitted Date/Time: 10/28/2016 13:25
Sampled by: Unknown
P.O. #: PO248418

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Method Summary (Page 4)
Sample Summary (Page 5)

A handwritten signature in black ink, appearing to read "Maya Murshak".

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods



Analytical Laboratory Report

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260B	



Analytical Laboratory Report

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S77180.01	MW-101	Groundwater	10/27/16 12:00
S77180.02	MW-112	Groundwater	10/27/16 12:50
S77180.03	MW-107	Groundwater	10/27/16 13:35
S77180.04	MW-106	Groundwater	10/27/16 14:30
S77180.05	MW-100	Groundwater	10/27/16 15:20
S77180.06	Trip Blank	Groundwater	10/27/16 12:00
S77180.07	Field Blank	Groundwater	10/27/16 12:05
S77180.08	Duplicate	Groundwater	10/27/16 12:55



Analytical Laboratory Report

Lab Sample ID: S77180.01

Sample Tag: MW-101

Collected Date/Time: 10/27/2016 12:00

Matrix: Groundwater

COC Reference: 094307

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.7	IR
1	125ml Plastic	HNO3	Yes	5.7	IR
4	40ml Glass	HCL	Yes	5.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/02/16 11:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:35	JKB	0.003	H
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:05	JKB	0.003	H
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	11/03/16 11:57	CCM	0.00039	
Arsenic	0.00070	mg/L	0.002	E200.8	11/03/16 11:55	CCM	0.00039	b
Chromium, Dissolved	0.020	mg/L	0.005	E200.8	11/03/16 11:57	CCM	0.00015	
Chromium	0.063	mg/L	0.005	E200.8	11/03/16 11:55	CCM	0.00015	
Copper, Dissolved	0.00431	mg/L	0.001	E200.8	11/03/16 11:57	CCM	0.00029	b
Copper	0.018	mg/L	0.005	E200.8	11/03/16 11:55	CCM	0.00029	
Lead, Dissolved	0.000148	mg/L	0.003	E200.8	11/03/16 11:57	CCM	0.000055	b
Lead	0.000895	mg/L	0.003	E200.8	11/03/16 11:55	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 11:57	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 11:55	CCM	0.00251	
Zinc, Dissolved	0.00228	mg/L	0.005	E200.8	11/03/16 11:57	CCM	0.00138	b
Zinc	0.00487	mg/L	0.005	E200.8	11/03/16 11:55	CCM	0.00138	b
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.18	
Acetone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 17:33	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.17	
Carbon disulfide*	0.15	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 17:33	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.33	
Chloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.33	
Bromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.28	
Chloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.29	
Trichlorofluoromethane*	0.21	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.20	J

1-Filtered and preserved in lab

H-Sample submitted and run outside of holding time

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77180.01 (continued)

Sample Tag: MW-101

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.24	
Methylene chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 17:33	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 17:33	JGH	0.34	
2-Hexanone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 17:33	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.26	
Trichloroethene*	2	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.31	
Dibromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/01/16 17:33	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.58	
n-Propylbenzene*	0.23	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.13	J
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.12	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77180.01 (continued)

Sample Tag: MW-101

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Hexachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.21	
Naphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:33	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77180.02

Sample Tag: MW-112

Collected Date/Time: 10/27/2016 12:50

Matrix: Groundwater

COC Reference: 094307

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.7	IR
1	125ml Plastic	HNO3	Yes	5.7	IR
4	40ml Glass	HCL	Yes	5.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/02/16 11:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:40	JKB	0.003	H
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:10	JKB	0.003	H
Metals								
Arsenic, Dissolved	0.108	mg/L	0.002	E200.8	11/03/16 11:59	CCM	0.00039	
Arsenic	0.265	mg/L	0.002	E200.8	11/03/16 11:58	CCM	0.00039	
Chromium, Dissolved	0.00241	mg/L	0.005	E200.8	11/03/16 11:59	CCM	0.00015	b
Chromium	0.009	mg/L	0.005	E200.8	11/03/16 11:58	CCM	0.00015	
Copper, Dissolved	0.006	mg/L	0.001	E200.8	11/03/16 11:59	CCM	0.00029	
Copper	0.010	mg/L	0.005	E200.8	11/03/16 11:58	CCM	0.00029	
Lead, Dissolved	0.001651	mg/L	0.003	E200.8	11/03/16 11:59	CCM	0.000055	b
Lead	0.005	mg/L	0.003	E200.8	11/03/16 11:58	CCM	0.000055	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 11:59	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 11:58	CCM	0.00251	
Zinc, Dissolved	0.016	mg/L	0.005	E200.8	11/03/16 11:59	CCM	0.00138	
Zinc	0.032	mg/L	0.005	E200.8	11/03/16 11:58	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.18	
Acetone*	10	ug/L	10	SW5030C/8260B	11/01/16 17:55	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.17	
Carbon disulfide*	0.24	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 17:55	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.33	
Chloromethane*	0.80	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.17	J
Vinyl chloride*	2	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.33	
Bromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.28	
Chloroethane*	3	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.20	

1-Filtered and preserved in lab

H-Sample submitted and run outside of holding time

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77180.02 (continued)

Sample Tag: MW-112

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.24	
Methylene chloride*	0.31	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.24	J
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.22	
1,1-Dichloroethane*	0.62	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.23	J
cis-1,2-Dichloroethene*	2	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 17:55	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	0.78	ug/L	10	SW5030C/8260B	11/01/16 17:55	JGH	0.34	J
2-Hexanone*	2.25	ug/L	10	SW5030C/8260B	11/01/16 17:55	JGH	0.38	J
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.26	
Trichloroethene*	3	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.31	
Dibromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/01/16 17:55	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.12	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77180.02 (continued)

Sample Tag: MW-112

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Hexachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.21	
Naphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 17:55	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77180.03

Sample Tag: MW-107

Collected Date/Time: 10/27/2016 13:35

Matrix: Groundwater

COC Reference: 094307

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.7	IR
1	125ml Plastic	HNO3	Yes	5.7	IR
4	40ml Glass	HCL	Yes	5.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/02/16 11:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:45	JKB	0.003	F
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:15	JKB	0.003	F
Metals								
Arsenic, Dissolved	0.00079	mg/L	0.002	E200.8	11/03/16 12:02	CCM	0.00039	b
Arsenic	0.00105	mg/L	0.002	E200.8	11/03/16 12:00	CCM	0.00039	b
Chromium, Dissolved	0.00018	mg/L	0.005	E200.8	11/03/16 12:02	CCM	0.00015	b
Chromium	0.019	mg/L	0.005	E200.8	11/03/16 12:00	CCM	0.00015	
Copper, Dissolved	0.00125	mg/L	0.001	E200.8	11/03/16 12:02	CCM	0.00029	b
Copper	0.00246	mg/L	0.005	E200.8	11/03/16 12:00	CCM	0.00029	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	11/03/16 12:02	CCM	0.000055	
Lead	0.000350	mg/L	0.003	E200.8	11/03/16 12:00	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:02	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:00	CCM	0.00251	
Zinc, Dissolved	0.010	mg/L	0.005	E200.8	11/03/16 12:02	CCM	0.00138	
Zinc	0.011	mg/L	0.005	E200.8	11/03/16 12:00	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.18	
Acetone*	1.6	ug/L	10	SW5030C/8260B	11/01/16 18:15	JGH	1.4	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.17	
Carbon disulfide*	0.16	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:15	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.33	
Chloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.17	
Vinyl chloride*	0.73	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.33	J
Bromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.28	
Chloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.29	

1-Filtered and preserved in lab

F-Analysis run outside of holding time

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77180.03 (continued)

Sample Tag: MW-107

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.24	
Methylene chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.22	
1,1-Dichloroethane*	0.69	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.23	J
cis-1,2-Dichloroethene*	2	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:15	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:15	JGH	0.34	
2-Hexanone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:15	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.26	
Trichloroethene*	3	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.31	
Dibromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/01/16 18:15	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.15	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77180.03 (continued)

Sample Tag: MW-107

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.21	
Naphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:15	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77180.04
Sample Tag: MW-106
Collected Date/Time: 10/27/2016 14:30
Matrix: Groundwater
COC Reference: 094307

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.7	IR
1	125ml Plastic	HNO3	Yes	5.7	IR
4	40ml Glass	HCL	Yes	5.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/02/16 11:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:50	JKB	0.003	F
Chromium VI	Not detected	mg/L	0.02	SM3500-Cr B	10/28/16 16:20	JKB	0.008	F
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	11/03/16 12:08	CCM	0.00039	
Arsenic	0.00093	mg/L	0.002	E200.8	11/03/16 12:06	CCM	0.00039	b
Chromium, Dissolved	0.340	mg/L	0.005	E200.8	11/03/16 12:08	CCM	0.00015	
Chromium	0.619	mg/L	0.005	E200.8	11/03/16 12:06	CCM	0.00015	
Copper, Dissolved	0.032	mg/L	0.001	E200.8	11/03/16 12:08	CCM	0.00029	
Copper	0.064	mg/L	0.005	E200.8	11/03/16 12:06	CCM	0.00029	
Lead, Dissolved	0.000451	mg/L	0.003	E200.8	11/03/16 12:08	CCM	0.000055	b
Lead	0.000632	mg/L	0.003	E200.8	11/03/16 12:06	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:08	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:06	CCM	0.00251	
Zinc, Dissolved	0.00289	mg/L	0.005	E200.8	11/03/16 12:08	CCM	0.00138	b
Zinc	0.00150	mg/L	0.005	E200.8	11/03/16 12:06	CCM	0.00138	b
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.18	
Acetone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:36	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.17	
Carbon disulfide*	0.15	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:36	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.33	
Chloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.33	
Bromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.28	
Chloroethane*	0.45	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.29	J
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.20	

1-Filtered and preserved in lab

F-Analysis run outside of holding time

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77180.04 (continued)

Sample Tag: MW-106

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.24	
Methylene chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:36	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:36	JGH	0.34	
2-Hexanone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:36	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.31	
Dibromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/01/16 18:36	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.29	



Analytical Laboratory Report

Lab Sample ID: S77180.04 (continued)

Sample Tag: MW-106

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.21	
Naphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:36	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77180.05
Sample Tag: MW-100
Collected Date/Time: 10/27/2016 15:20
Matrix: Groundwater
COC Reference: 094307

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.7	IR
1	125ml Plastic	HNO3	Yes	5.7	IR
4	40ml Glass	HCL	Yes	5.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/02/16 11:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:55	JKB	0.003	F
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:25	JKB	0.003	F
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	11/03/16 12:09	CCM	0.00039	
Arsenic	0.00169	mg/L	0.002	E200.8	11/03/16 12:05	CCM	0.00039	b
Chromium, Dissolved	0.00095	mg/L	0.005	E200.8	11/03/16 12:09	CCM	0.00015	b
Chromium	0.010	mg/L	0.005	E200.8	11/03/16 12:05	CCM	0.00015	
Copper, Dissolved	0.00091	mg/L	0.001	E200.8	11/03/16 12:09	CCM	0.00029	b
Copper	0.005	mg/L	0.005	E200.8	11/03/16 12:05	CCM	0.00029	
Lead, Dissolved	0.000144	mg/L	0.003	E200.8	11/03/16 12:09	CCM	0.000055	b
Lead	0.002320	mg/L	0.003	E200.8	11/03/16 12:05	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:09	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:05	CCM	0.00251	
Zinc, Dissolved	0.00206	mg/L	0.005	E200.8	11/03/16 12:09	CCM	0.00138	b
Zinc	0.012	mg/L	0.005	E200.8	11/03/16 12:05	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.18	
Acetone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:57	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.17	
Carbon disulfide*	0.15	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:57	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.33	
Chloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.33	
Bromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.28	
Chloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.20	

1-Filtered and preserved in lab

F-Analysis run outside of holding time

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77180.05 (continued)

Sample Tag: MW-100

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.24	
Methylene chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:57	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:57	JGH	0.34	
2-Hexanone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 18:57	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.26	
Trichloroethene*	3	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.31	
Dibromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/01/16 18:57	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.29	



Analytical Laboratory Report

Lab Sample ID: S77180.05 (continued)

Sample Tag: MW-100

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.21	
Naphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 18:57	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77180.06
Sample Tag: Trip Blank
Collected Date/Time: 10/27/2016 12:00
Matrix: Groundwater
COC Reference: 094307

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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Extraction / Prep.

pH check for VOCs* <2 STD Units N/A 11/02/16 11:00 JML

Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.18	
Acetone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:09	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.17	
Carbon disulfide*	0.18	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:09	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.33	
Chloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.33	
Bromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.28	
Chloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.24	
Methylene chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:09	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:09	JGH	0.34	
2-Hexanone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:09	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.31	
Dibromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.13	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77180.06 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/01/16 16:09	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.21	
Naphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:09	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77180.07

Sample Tag: Field Blank

Collected Date/Time: 10/27/2016 12:05

Matrix: Groundwater

COC Reference: 094307

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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Extraction / Prep.

pH check for VOCs* <2 STD Units N/A 11/02/16 11:00 JML

Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.18	
Acetone*	7.3	ug/L	10	SW5030C/8260B	11/01/16 16:51	JGH	1.4	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.17	
Carbon disulfide*	0.14	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:51	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.33	
Chloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.33	
Bromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.28	
Chloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.24	
Methylene chloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:51	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:51	JGH	0.34	
2-Hexanone*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 16:51	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.31	
Dibromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.46	

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77180.07 (continued)

Sample Tag: Field Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Dibromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/01/16 16:51	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.21	
Naphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 16:51	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77180.08

Sample Tag: Duplicate

Collected Date/Time: 10/27/2016 12:55

Matrix: Groundwater

COC Reference: 094307

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.7	IR
1	125ml Plastic	HNO3	Yes	5.7	IR
1	40ml Glass	HCL	Yes	5.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/02/16 11:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 17:00	JKB	0.003	H
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	10/28/16 16:30	JKB	0.003	H
Metals								
Arsenic, Dissolved	0.034	mg/L	0.002	E200.8	11/03/16 12:18	CCM	0.00039	
Arsenic	0.259	mg/L	0.002	E200.8	11/03/16 12:17	CCM	0.00039	
Chromium, Dissolved	0.00059	mg/L	0.005	E200.8	11/03/16 12:18	CCM	0.00015	b
Chromium	0.006	mg/L	0.005	E200.8	11/03/16 12:17	CCM	0.00015	
Copper, Dissolved	0.00311	mg/L	0.001	E200.8	11/03/16 12:18	CCM	0.00029	b
Copper	0.006	mg/L	0.005	E200.8	11/03/16 12:17	CCM	0.00029	
Lead, Dissolved	0.000191	mg/L	0.003	E200.8	11/03/16 12:18	CCM	0.000055	b
Lead	0.003	mg/L	0.003	E200.8	11/03/16 12:17	CCM	0.000055	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:18	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:17	CCM	0.00251	
Zinc, Dissolved	0.010	mg/L	0.005	E200.8	11/03/16 12:18	CCM	0.00138	
Zinc	0.021	mg/L	0.005	E200.8	11/03/16 12:17	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.18	
Acetone*	9.0	ug/L	10	SW5030C/8260B	11/01/16 19:18	JGH	1.4	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.17	
Carbon disulfide*	0.23	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 19:18	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.33	
Chloromethane*	0.79	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.17	J
Vinyl chloride*	2	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.33	
Bromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.28	
Chloroethane*	3	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.29	

1-Filtered and preserved in lab

H-Sample submitted and run outside of holding time

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77180.08 (continued)

Sample Tag: Duplicate

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.24	
Methylene chloride*	0.31	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.24	J
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.22	
1,1-Dichloroethane*	0.61	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.23	J
cis-1,2-Dichloroethene*	2	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	10	SW5030C/8260B	11/01/16 19:18	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	0.85	ug/L	10	SW5030C/8260B	11/01/16 19:18	JGH	0.34	J
2-Hexanone*	1.69	ug/L	10	SW5030C/8260B	11/01/16 19:18	JGH	0.38	J
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.26	
Trichloroethene*	2	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.31	
Dibromomethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/01/16 19:18	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.15	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77180.08 (continued)

Sample Tag: Duplicate

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.21	
Naphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	1	SW5030C/8260B	11/01/16 19:18	JGH	0.12	



2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

094307

REPORT TO

CONTACT NAME	<i>Mike Smith</i>		
COMPANY	Applied Eco Systems		
ADDRESS	6-1300 S. Saginaw		
CITY	Burton		
PHONE NO.	810-715-2525	FAX NO.	810-715-2526
E-MAIL ADDRESS	ae-inds@yahoo.com		
QUOTE NO.			

CHAIN OF CUSTODY RECORD

CONTACT NAME	<i>Mike</i>			<input type="checkbox"/> SAME
COMPANY				
ADDRESS				
CITY				
STATE				
ZIP CODE				
PHONE NO.				
E-MAIL ADDRESS				
QUOTE NO.				

INVOICE TO

PROJECT NO./NAME	Racer	SAMPLER(S) - PLEASE PRINT/SIGN NAME
------------------	-------	-------------------------------------

TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER

DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER

MATRIX GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives						
	DATE	TIME				None	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER
77180.01	10/27/16	12:00	MW- 101	GW	1	X	X	X				
.02	12:50		MW- 112		1							
.03	1:35		MW-107		1							
.04	2:30		MW- 106		1							
.05	3:20		MW- 100		1							
.06	12:00		Trip Blank		1							
.07	12:05		Field Blank		1							
.08	12:55		Duplicate		1							
	12:55		Duplicate		1	X						
	12:55		Duplicate		1							

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
<input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water
<input type="checkbox"/> DoD <input type="checkbox"/> NPDES
Project Locations
<input type="checkbox"/> Detroit <input type="checkbox"/> New York
<input type="checkbox"/> Other _____
Special Instructions
Arsenic
Copper
Chromium
Lead
Selenium
Zinc
Chromium Six

RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>J. Miller</i>	<input type="checkbox"/> Sampler	DATE <i>10/28/16</i>	TIME <i>9:25a</i>
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>J. Miller</i>		DATE <i>10/28/16</i>	TIME <i>9:25</i>
RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>M. Dilicata</i>		DATE <i>10/28/16</i>	TIME <i>1:25</i>
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>M. Dilicata</i>		DATE <i>10/28/16</i>	TIME <i>1:25</i>

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME		
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME		
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES:	TEMP. ON ARRIVAL
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Analytical Laboratory Report

Report ID: S77231.01(01)

Generated on 11/11/2016

Report to

Attention: Mike Smith
Applied Ecosystems
G4300 S. Saginaw St.
Burton, MI 48529

Phone: 810-715-2525 FAX: 810-715-2526

Email: ae_mds@yahoo.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:

John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S77231.01-S77231.09

Project: Racer

Collected Date: 10/31/2016

Submitted Date/Time: 11/01/2016 12:05

Sampled by: Unknown

P.O. #: PO248418

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Laboratory Certifications (Page 3)
Qualifier Descriptions (Page 3)
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Method Summary (Page 4)
Sample Summary (Page 5)

A handwritten signature in black ink, appearing to read "Maya Murshak".

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods



Analytical Laboratory Report

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260B	



Analytical Laboratory Report

Sample Summary (9 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S77231.01	MW-108	Groundwater	10/31/16 13:00
S77231.02	MW-110	Groundwater	10/31/16 13:30
S77231.03	MW-113	Groundwater	10/31/16 14:10
S77231.04	MW-109	Groundwater	10/31/16 14:50
S77231.05	MW-111	Groundwater	10/31/16 15:40
S77231.06	MW-103	Groundwater	10/31/16 16:30
S77231.07	Trip Blank	Groundwater	10/31/16 13:00
S77231.08	Field Blank	Groundwater	10/31/16 13:05
S77231.09	Duplicate	Groundwater	10/31/16 13:10



Analytical Laboratory Report

Lab Sample ID: S77231.01
Sample Tag: MW-108
Collected Date/Time: 10/31/2016 13:00
Matrix: Groundwater
COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
4	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 12:45	JKB	0.003	
Chromium VI	Not detected	mg/L	0.02	SM3500-Cr B	11/01/16 12:20	JKB	0.008	
Metals								
Arsenic, Dissolved	0.015	mg/L	0.002	E200.8	11/03/16 12:20	CCM	0.00039	
Arsenic	0.052	mg/L	0.002	E200.8	11/03/16 12:19	CCM	0.00039	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:20	CCM	0.00015	
Chromium	0.00055	mg/L	0.005	E200.8	11/03/16 12:19	CCM	0.00015	b
Copper, Dissolved	Not detected	mg/L	0.001	E200.8	11/03/16 12:20	CCM	0.00029	
Copper	Not detected	mg/L	0.005	E200.8	11/03/16 12:19	CCM	0.00029	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	11/03/16 12:20	CCM	0.000055	
Lead	0.000161	mg/L	0.003	E200.8	11/03/16 12:19	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:20	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:19	CCM	0.00251	
Zinc, Dissolved	0.00236	mg/L	0.005	E200.8	11/03/16 12:20	CCM	0.00138	b
Zinc	Not detected	mg/L	0.005	E200.8	11/03/16 12:19	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 17:40	JGH	0.18	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 17:40	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.17	
Carbon disulfide*	0.16	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 17:40	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 17:40	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.24	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.01 (continued)

Sample Tag: MW-108

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.23	
cis-1,2-Dichloroethene*	0.36	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.31	J
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 17:40	JGH	0.67	
Chloroform*	3	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 17:40	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 17:40	JGH	0.38	
Carbon tetrachloride*	2	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 17:40	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 17:40	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.29	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77231.01 (continued)

Sample Tag: MW-108

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 17:40	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77231.02

Sample Tag: MW-110

Collected Date/Time: 10/31/2016 13:30

Matrix: Groundwater

COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
4	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 13:20	JKB	0.003	
Chromium VI	Not detected	mg/L	0.02	SM3500-Cr B	11/01/16 12:55	JKB	0.008	
Metals								
Arsenic, Dissolved	0.006	mg/L	0.002	E200.8	11/03/16 12:22	CCM	0.00039	
Arsenic	0.014	mg/L	0.002	E200.8	11/03/16 12:21	CCM	0.00039	
Chromium, Dissolved	0.00056	mg/L	0.005	E200.8	11/03/16 12:22	CCM	0.00015	b
Chromium	0.00131	mg/L	0.005	E200.8	11/03/16 12:21	CCM	0.00015	b
Copper, Dissolved	Not detected	mg/L	0.001	E200.8	11/03/16 12:22	CCM	0.00029	
Copper	0.00185	mg/L	0.005	E200.8	11/03/16 12:21	CCM	0.00029	b
Lead, Dissolved	0.000075	mg/L	0.003	E200.8	11/03/16 12:22	CCM	0.000055	b
Lead	0.000523	mg/L	0.003	E200.8	11/03/16 12:21	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:22	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:21	CCM	0.00251	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:22	CCM	0.00138	
Zinc	0.00230	mg/L	0.005	E200.8	11/03/16 12:21	CCM	0.00138	b
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 18:01	JGH	0.18	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 18:01	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.17	
Carbon disulfide*	0.18	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 18:01	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 18:01	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.24	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.02 (continued)

Sample Tag: MW-110

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 18:01	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 18:01	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 18:01	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 18:01	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:01	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.26	



Analytical Laboratory Report

Lab Sample ID: S77231.02 (continued)

Sample Tag: MW-110

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:01	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77231.03

Sample Tag: MW-113

Collected Date/Time: 10/31/2016 14:10

Matrix: Groundwater

COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
4	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 13:25	JKB	0.003	
Chromium VI	Not detected	mg/L	0.02	SM3500-Cr B	11/01/16 13:00	JKB	0.008	
Metals								
Arsenic, Dissolved	0.004	mg/L	0.002	E200.8	11/03/16 12:24	CCM	0.00039	
Arsenic	0.017	mg/L	0.002	E200.8	11/03/16 12:23	CCM	0.00039	
Chromium, Dissolved	0.00286	mg/L	0.005	E200.8	11/03/16 12:24	CCM	0.00015	b
Chromium	0.022	mg/L	0.005	E200.8	11/03/16 12:23	CCM	0.00015	
Copper, Dissolved	Not detected	mg/L	0.001	E200.8	11/03/16 12:24	CCM	0.00029	
Copper	0.00294	mg/L	0.005	E200.8	11/03/16 12:23	CCM	0.00029	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	11/03/16 12:24	CCM	0.000055	
Lead	0.002855	mg/L	0.003	E200.8	11/03/16 12:23	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:24	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:23	CCM	0.00251	
Zinc, Dissolved	0.00205	mg/L	0.005	E200.8	11/03/16 12:24	CCM	0.00138	b
Zinc	0.009	mg/L	0.005	E200.8	11/03/16 12:23	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 18:22	JGH	0.18	
Acetone*	2.3	ug/L	50	SW5030C/8260B	11/10/16 18:22	JGH	1.4	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.17	
Carbon disulfide*	0.46	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 18:22	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 18:22	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.33	
Chloromethane*	0.35	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.17	J
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.20	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.03 (continued)

Sample Tag: MW-113

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.24	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.24	
trans-1,2-Dichloroethene*	0.24	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.22	J
1,1-Dichloroethane*	0.66	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.23	J
cis-1,2-Dichloroethene*	11	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 18:22	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 18:22	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 18:22	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.26	
Trichloroethene*	50	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 18:22	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 18:22	JGH	0.12	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77231.03 (continued)

Sample Tag: MW-113

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 18:22	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77231.04

Sample Tag: MW-109

Collected Date/Time: 10/31/2016 14:50

Matrix: Groundwater

COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
4	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:00	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 13:30	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 13:05	JKB	0.003	
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	11/03/16 12:25	CCM	0.00039	
Arsenic	0.00126	mg/L	0.002	E200.8	11/03/16 12:26	CCM	0.00039	b
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:25	CCM	0.00015	
Chromium	0.00062	mg/L	0.005	E200.8	11/03/16 12:26	CCM	0.00015	b
Copper, Dissolved	0.006	mg/L	0.001	E200.8	11/03/16 12:25	CCM	0.00029	
Copper	0.006	mg/L	0.005	E200.8	11/03/16 12:26	CCM	0.00029	
Lead, Dissolved	0.000151	mg/L	0.003	E200.8	11/03/16 12:25	CCM	0.000055	b
Lead	0.000479	mg/L	0.003	E200.8	11/03/16 12:26	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:25	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:26	CCM	0.00251	
Zinc, Dissolved	0.00346	mg/L	0.005	E200.8	11/03/16 12:25	CCM	0.00138	b
Zinc	0.00359	mg/L	0.005	E200.8	11/03/16 12:26	CCM	0.00138	b
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 19:04	JGH	0.18	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 19:04	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.17	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.14	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 19:04	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 19:04	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.17	
Vinyl chloride*	8	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.20	
1,1-Dichloroethene*	3	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.24	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.24	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77231.04 (continued)

Sample Tag: MW-109

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,2-Dichloroethene*	0.70	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.22	J
1,1-Dichloroethane*	2	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.23	
cis-1,2-Dichloroethene*	32	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 19:04	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.28	
1,1,1-Trichloroethane*	0.38	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.28	J
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 19:04	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 19:04	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.26	
Trichloroethene*	119	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 19:04	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:04	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.26	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77231.04 (continued)

Sample Tag: MW-109

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:04	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77231.05
Sample Tag: MW-111
Collected Date/Time: 10/31/2016 15:40
Matrix: Groundwater
COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
4	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 13:35	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 13:10	JKB	0.003	
Metals								
Arsenic, Dissolved	0.006	mg/L	0.002	E200.8	11/03/16 12:41	CCM	0.00039	
Arsenic	0.011	mg/L	0.002	E200.8	11/03/16 12:39	CCM	0.00039	
Chromium, Dissolved	0.00041	mg/L	0.005	E200.8	11/03/16 12:41	CCM	0.00015	b
Chromium	0.00171	mg/L	0.005	E200.8	11/03/16 12:39	CCM	0.00015	b
Copper, Dissolved	0.006	mg/L	0.001	E200.8	11/03/16 12:41	CCM	0.00029	
Copper	0.006	mg/L	0.005	E200.8	11/03/16 12:39	CCM	0.00029	
Lead, Dissolved	0.000978	mg/L	0.003	E200.8	11/03/16 12:41	CCM	0.000055	b
Lead	0.001300	mg/L	0.003	E200.8	11/03/16 12:39	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:41	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:39	CCM	0.00251	
Zinc, Dissolved	0.008	mg/L	0.005	E200.8	11/03/16 12:41	CCM	0.00138	
Zinc	0.007	mg/L	0.005	E200.8	11/03/16 12:39	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 19:26	JGH	0.18	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 19:26	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.17	
Carbon disulfide*	0.15	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 19:26	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 19:26	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.17	
Vinyl chloride*	72	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.28	
Chloroethane*	0.40	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.29	J
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.20	
1,1-Dichloroethene*	4	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.24	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.05 (continued)

Sample Tag: MW-111

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.24	
trans-1,2-Dichloroethene*	0.46	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.22	J
1,1-Dichloroethane*	2	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.23	
cis-1,2-Dichloroethene*	10	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 19:26	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 19:26	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 19:26	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.26	
Trichloroethene*	41	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 19:26	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:26	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.29	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77231.05 (continued)

Sample Tag: MW-111

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:26	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77231.06

Sample Tag: MW-103

Collected Date/Time: 10/31/2016 16:30

Matrix: Groundwater

COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
4	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 13:40	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 13:15	JKB	0.003	
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	11/03/16 12:43	CCM	0.00039	
Arsenic	Not detected	mg/L	0.002	E200.8	11/03/16 12:42	CCM	0.00039	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:43	CCM	0.00015	
Chromium	0.00059	mg/L	0.005	E200.8	11/03/16 12:42	CCM	0.00015	b
Copper, Dissolved	0.00099	mg/L	0.001	E200.8	11/03/16 12:43	CCM	0.00029	b
Copper	0.00110	mg/L	0.005	E200.8	11/03/16 12:42	CCM	0.00029	b
Lead, Dissolved	0.000116	mg/L	0.003	E200.8	11/03/16 12:43	CCM	0.000055	b
Lead	0.000306	mg/L	0.003	E200.8	11/03/16 12:42	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:43	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:42	CCM	0.00251	
Zinc, Dissolved	0.00419	mg/L	0.005	E200.8	11/03/16 12:43	CCM	0.00138	b
Zinc	0.00235	mg/L	0.005	E200.8	11/03/16 12:42	CCM	0.00138	b
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 19:46	JGH	0.18	
Acetone*	2.3	ug/L	50	SW5030C/8260B	11/10/16 19:46	JGH	1.4	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.17	
Carbon disulfide*	0.18	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 19:46	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 19:46	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.33	
Chloromethane*	0.71	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.17	J
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.28	
Chloroethane*	2.60	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.29	J
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.20	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.06 (continued)

Sample Tag: MW-103

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.24	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 19:46	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 19:46	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 19:46	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.26	
Benzene*	0.19	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.16	J
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.26	
Trichloroethene*	0.44	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.35	J
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 19:46	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.20	
Styrene*	1	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 19:46	JGH	0.12	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77231.06 (continued)

Sample Tag: MW-103

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 19:46	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77231.07
Sample Tag: Trip Blank
Collected Date/Time: 10/31/2016 13:00
Matrix: Groundwater
COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep. pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		

Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 14:33	JGH	0.18	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 14:33	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.17	
Carbon disulfide*	0.29	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 14:33	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 14:33	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.24	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 14:33	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 14:33	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 14:33	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.13	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.07 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 14:33	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:33	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.23	
2-Methylnaphthalene*	0.15	ug/L	5	SW5030C/8260B	11/10/16 14:33	JGH	0.12	JB

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.08

Sample Tag: Field Blank

Collected Date/Time: 10/31/2016 13:05

Matrix: Groundwater

COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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Extraction / Prep.

pH check for VOCs* <2 STD Units N/A 11/11/16 10:30 JML

Organics - Volatiles

Volatile Organics - DEQ List

Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 14:54	JGH	0.18	
Acetone*	5.1	ug/L	50	SW5030C/8260B	11/10/16 14:54	JGH	1.4	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.17	
Carbon disulfide*	0.15	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.14	JB
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 14:54	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 14:54	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.24	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 14:54	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 14:54	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 14:54	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.46	

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.08 (continued)

Sample Tag: Field Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.22	
p,m-Xylene*	0.59	ug/L	2	SW5030C/8260B	11/10/16 14:54	JGH	0.40	J
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.29	
1,2,4-Trimethylbenzene*	0.38	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.23	J
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.14	
1,2,3-Trimethylbenzene*	0.18	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.15	J
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 14:54	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.23	
2-Methylnaphthalene*	0.13	ug/L	5	SW5030C/8260B	11/10/16 14:54	JGH	0.12	JB

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank



Analytical Laboratory Report

Lab Sample ID: S77231.09
Sample Tag: Duplicate
Collected Date/Time: 10/31/2016 13:10
Matrix: Groundwater
COC Reference: 094308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
1	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 12:50	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	11/01/16 12:30	JKB	0.003	
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	11/03/16 12:46	CCM	0.00039	
Arsenic	0.002	mg/L	0.002	E200.8	11/03/16 12:45	CCM	0.00039	
Chromium, Dissolved	0.00064	mg/L	0.005	E200.8	11/03/16 12:46	CCM	0.00015	b
Chromium	0.00138	mg/L	0.005	E200.8	11/03/16 12:45	CCM	0.00015	b
Copper, Dissolved	0.00086	mg/L	0.001	E200.8	11/03/16 12:46	CCM	0.00029	b
Copper	0.00163	mg/L	0.005	E200.8	11/03/16 12:45	CCM	0.00029	b
Lead, Dissolved	0.000361	mg/L	0.003	E200.8	11/03/16 12:46	CCM	0.000055	b
Lead	0.000928	mg/L	0.003	E200.8	11/03/16 12:45	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:46	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:45	CCM	0.00251	
Zinc, Dissolved	0.006	mg/L	0.005	E200.8	11/03/16 12:46	CCM	0.00138	
Zinc	0.006	mg/L	0.005	E200.8	11/03/16 12:45	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 20:07	JGH	0.18	
Acetone*	1.4	ug/L	50	SW5030C/8260B	11/10/16 20:07	JGH	1.4	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.17	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.14	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 20:07	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 20:07	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.24	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77231.09 (continued)

Sample Tag: Duplicate

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.23	
cis-1,2-Dichloroethene*	0.39	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.31	J
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 20:07	JGH	0.67	
Chloroform*	2	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 20:07	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 20:07	JGH	0.38	
Carbon tetrachloride*	1	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 20:07	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:07	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.29	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77231.09 (continued)

Sample Tag: Duplicate

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:07	JGH	0.12	



2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # / OF /

094308

REPORT TO

CONTACT NAME	Mike Smith		
COMPANY	Applied Ecosystems		
ADDRESS	6-4300 S. Saginaw		
CITY	Burton	STATE	MI ZIP CODE 48529
PHONE NO.	810-715-2525	FAX NO.	810-715-2526
E-MAIL ADDRESS	e-e-mds@yahoo.com		
P.O. NO.	QUOTE NO.		

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME	<input type="checkbox"/> SAME		
COMPANY			
ADDRESS			
CITY	STATE	ZIP CODE	
PHONE NO.	E-MAIL ADDRESS		

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications

- OHIO VAP Drinking Water
 DoD NPDES

Project Locations

- Detroit New York

- Other _____

Special Instructions

Arsenic
Copper
Chromium
Lead
Selenium
Zinc
Chromium Six

PROJECT NO./NAME MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives						
	DATE	TIME				None	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER
77231.01	10/31/16	1:00	MW-108	6W	1	X	X	X				
.02		1:30	MW-110		1							
.03		2:10	MW-113		1							
.04		2:50	MW-109		1							
.05		3:40	MW-111		1							
.06		4:30	MW-103	V	1	X	X	X				
.07		5:00	Top Blank		1	X						
.08		5:05	Field Blank		1	X						
.09		5:10	Duplicate		1	X						
X		5:10	Duplicate		1							
mc		5:10	Duplicate		1		X					

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Tyler Wilson	Sampler	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	R.M. Hall		11/1/16	11:00
RELINQUISHED BY: SIGNATURE/ORGANIZATION	R.M. Hall		11/1/16	11:00
RECEIVED BY: SIGNATURE/ORGANIZATION	M. Dilicato		11/1/16	10:05

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME		
RECEIVED BY: SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT	INITIALS	NOTES:	TEMP. ON ARRIVAL
	YES <input type="checkbox"/> NO <input type="checkbox"/>			
SEAL NO.	SEAL INTACT	INITIALS		
	YES <input type="checkbox"/> NO <input type="checkbox"/>			

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Analytical Laboratory Report

Report ID: S77253.01(02)

Generated on 11/15/2016

Replaces report S77253.01(01) generated on 11/15/2016

Report to

Attention: Mike Smith
Applied Ecosystems
G4300 S. Saginaw St.
Burton, MI 48529

Phone: 810-715-2525 FAX: 810-715-2526

Email: ae_mds@yahoo.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:

John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S77253.01-S77253.03

Project: Monitoring

Collected Date: 11/01/2016

Submitted Date/Time: 11/02/2016 12:30

Sampled by: Unknown

P.O. #: PO248418

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- Method Summary (Page 4)
- Sample Summary (Page 5)

A handwritten signature in black ink, appearing to read "Maya Murshak".

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods



Analytical Laboratory Report

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260B	



Analytical Laboratory Report

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S77253.01	MW-104	Groundwater	11/01/16 14:30
S77253.02	MW-105	Groundwater	11/01/16 15:15
S77253.03	MW-102	Groundwater	11/01/16 15:50



Analytical Laboratory Report

Lab Sample ID: S77253.01

Sample Tag: MW-104

Collected Date/Time: 11/01/2016 14:30

Matrix: Groundwater

COC Reference: 094309

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.8	IR
1	125ml Plastic	HNO3	Yes	4.8	IR
4	40ml Glass	HCL	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/02/16 14:00	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	11/02/16 13:20	JKB	0.003	
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	11/03/16 12:50	CCM	0.00039	
Arsenic	Not detected	mg/L	0.002	E200.8	11/03/16 12:47	CCM	0.00039	
Chromium, Dissolved	0.024	mg/L	0.005	E200.8	11/03/16 12:50	CCM	0.00015	
Chromium	0.146	mg/L	0.005	E200.8	11/03/16 12:47	CCM	0.00015	
Copper, Dissolved	0.00222	mg/L	0.001	E200.8	11/03/16 12:50	CCM	0.00029	b
Copper	0.00416	mg/L	0.005	E200.8	11/03/16 12:47	CCM	0.00029	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	11/03/16 12:50	CCM	0.000055	
Lead	Not detected	mg/L	0.003	E200.8	11/03/16 12:47	CCM	0.000055	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:50	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 12:47	CCM	0.00251	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 12:50	CCM	0.00138	
Zinc	Not detected	mg/L	0.005	E200.8	11/03/16 12:47	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 20:28	JGH	0.18	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 20:28	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.17	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.14	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 20:28	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 20:28	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.24	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.24	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77253.01 (continued)

Sample Tag: MW-104

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 20:28	JGH	0.67	
Chloroform*	1	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 20:28	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 20:28	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.26	
Trichloroethene*	0.46	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.35	J
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.26	
Bromodichloromethane*	0.43	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.31	J
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 20:28	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:28	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.26	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77253.01 (continued)

Sample Tag: MW-104

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:28	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77253.02

Sample Tag: MW-105

Collected Date/Time: 11/01/2016 15:15

Matrix: Groundwater

COC Reference: 094309

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.8	IR
1	125ml Plastic	HNO3	Yes	4.8	IR
4	40ml Glass	HCL	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/02/16 14:05	JKB	0.003	
Chromium VI	Not detected	mg/L	0.02	SM3500-Cr B	11/02/16 13:40	JKB	0.008	
Metals								
Arsenic, Dissolved	0.00123	mg/L	0.002	E200.8	11/03/16 13:01	CCM	0.00039	b
Arsenic	0.006	mg/L	0.002	E200.8	11/03/16 13:00	CCM	0.00039	
Chromium, Dissolved	0.407	mg/L	0.005	E200.8	11/03/16 13:01	CCM	0.00015	
Chromium	6.54	mg/L	0.005	E200.8	11/03/16 13:00	CCM	0.00015	
Copper, Dissolved	0.031	mg/L	0.001	E200.8	11/03/16 13:01	CCM	0.00029	
Copper	0.203	mg/L	0.005	E200.8	11/03/16 13:00	CCM	0.00029	
Lead, Dissolved	0.000846	mg/L	0.003	E200.8	11/03/16 13:01	CCM	0.000055	b
Lead	0.003	mg/L	0.003	E200.8	11/03/16 13:00	CCM	0.000055	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 13:01	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 13:00	CCM	0.00251	
Zinc, Dissolved	0.390	mg/L	0.005	E200.8	11/03/16 13:01	CCM	0.00138	
Zinc	1.38	mg/L	0.005	E200.8	11/03/16 13:00	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/14/16 20:03	JGH	0.18	
Acetone*	3.1	ug/L	50	SW5030C/8260B	11/14/16 20:03	JGH	1.4	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.17	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.14	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/14/16 20:03	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/14/16 20:03	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.24	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77253.02 (continued)

Sample Tag: MW-105

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/14/16 20:03	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/14/16 20:03	JGH	0.34	S
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/14/16 20:03	JGH	0.38	S
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.26	S
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.16	S
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.26	S
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.35	S
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.26	S
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.31	S
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.39	S
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.20	S
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.17	S
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.17	S
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.29	S
Tetrachloroethene*	28	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.21	S
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/14/16 20:03	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/14/16 20:03	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.29	

S-Surrogate recovery outside of control limits



Analytical Laboratory Report

Lab Sample ID: S77253.02 (continued)

Sample Tag: MW-105

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/14/16 20:03	JGH	0.12	
Volatile Organics - DEQ List (Replicate 01)								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 20:49	JGH	0.18	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 20:49	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.17	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.14	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 20:49	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 20:49	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.24	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.24	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 20:49	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 20:49	JGH	0.34	S
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 20:49	JGH	0.38	S
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.26	S
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.16	S
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.26	S
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.35	S
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.26	S
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.31	S
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.39	S
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.20	S
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.17	S
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.17	S
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.29	S
Tetrachloroethene*	34	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.21	S
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.12	

S-Surrogate recovery outside of control limits



Analytical Laboratory Report

Lab Sample ID: S77253.02 (continued)

Sample Tag: MW-105

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (Replicate 01) (continued)								
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 20:49	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 20:49	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.18	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 20:49	JGH	0.12	



Analytical Laboratory Report

Lab Sample ID: S77253.03

Sample Tag: MW-102

Collected Date/Time: 11/01/2016 15:50

Matrix: Groundwater

COC Reference: 094309

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.8	IR
1	125ml Plastic	HNO3	Yes	4.8	IR
4	40ml Glass	HCL	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		1
Metal Digestion	Completed			SW3015A	11/03/16 09:30	CCM		
pH check for VOCs*	<2	STD Units		N/A	11/11/16 10:30	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	11/02/16 14:10	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	11/02/16 13:45	JKB	0.003	
Metals								
Arsenic, Dissolved	0.00163	mg/L	0.002	E200.8	11/03/16 13:03	CCM	0.00039	b
Arsenic	0.004	mg/L	0.002	E200.8	11/03/16 13:02	CCM	0.00039	
Chromium, Dissolved	0.006	mg/L	0.005	E200.8	11/03/16 13:03	CCM	0.00015	
Chromium	0.008	mg/L	0.005	E200.8	11/03/16 13:02	CCM	0.00015	
Copper, Dissolved	0.00220	mg/L	0.001	E200.8	11/03/16 13:03	CCM	0.00029	b
Copper	0.00141	mg/L	0.005	E200.8	11/03/16 13:02	CCM	0.00029	b
Lead, Dissolved	0.000965	mg/L	0.003	E200.8	11/03/16 13:03	CCM	0.000055	b
Lead	0.001334	mg/L	0.003	E200.8	11/03/16 13:02	CCM	0.000055	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	11/03/16 13:03	CCM	0.00251	
Selenium	Not detected	mg/L	0.005	E200.8	11/03/16 13:02	CCM	0.00251	
Zinc, Dissolved	0.005	mg/L	0.005	E200.8	11/03/16 13:03	CCM	0.00138	
Zinc	0.006	mg/L	0.005	E200.8	11/03/16 13:02	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	11/10/16 21:10	JGH	0.18	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 21:10	JGH	1.4	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.17	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.14	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.19	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 21:10	JGH	0.47	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	11/10/16 21:10	JGH	4.0	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.33	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.17	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.33	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.28	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.29	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.20	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.24	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.24	

1-Filtered and preserved in-lab

b-Value detected less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S77253.03 (continued)

Sample Tag: MW-102

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.22	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.23	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.31	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	11/10/16 21:10	JGH	0.67	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.20	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.28	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.28	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 21:10	JGH	0.34	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	11/10/16 21:10	JGH	0.38	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.26	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.16	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.26	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.35	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.26	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.31	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.39	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.20	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.17	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.29	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.21	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.46	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.13	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.19	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.23	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.12	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.22	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	11/10/16 21:10	JGH	0.40	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.20	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.19	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.24	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.29	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.47	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.58	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.13	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.20	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.25	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.29	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.23	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.22	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.20	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.21	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.17	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.14	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.15	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	11/10/16 21:10	JGH	0.12	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.29	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.26	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.18	



Analytical Laboratory Report

Lab Sample ID: S77253.03 (continued)

Sample Tag: MW-102

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.21	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.23	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	11/10/16 21:10	JGH	0.12	



Merit
Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

094309

REPORT TO

CONTACT NAME	Mike Smith		
COMPANY	Applied Ecosystems		
ADDRESS	G-4300 S. Saginaw		
CITY	Burton	STATE	MI ZIP CODE 48529
PHONE NO.	810-715-2525	FAX NO.	810-715-2526
E-MAIL ADDRESS			
QUOTE NO.			

CHAIN OF CUSTODY RECORD

CONTACT NAME	<input type="checkbox"/> SAME	
COMPANY		
ADDRESS		
CITY	STATE	ZIP CODE
PHONE NO.	E-MAIL ADDRESS	

INVOICE TO

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
<input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water
<input type="checkbox"/> DoD <input type="checkbox"/> NPDES
Project Locations
<input type="checkbox"/> Detroit <input type="checkbox"/> New York
<input type="checkbox"/> Other _____

Special Instructions
 Arsenic
 Copper
 Chromium
 Lead
 Selenium
 Zinc
 Chromium six

PROJECT NO./NAME	SAMPLER(S) - PLEASE PRINT/SIGN NAME						
TURNAROUND TIME REQUIRED	<input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER						
DELIVERABLES REQUIRED	<input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> OTHER						
MATRIX CODE:	GW=GROUNDWATER SL=SLUDGE	WW=WASTEWATER DW=DRINKING WATER	S=SOIL O=OIL	L=LIQUID WP=WIPE	SD=SOLID A=AIR	W=WASTE	# Containers & Preservatives
MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE HCl HNO ₃ H ₂ SO ₄ NaOH MeOH OTHER	VOC's Total Metals Dissolved Metals	
77253.01	11/1/2016 2:30	MW-104	GW	1 4 1	X X X		
	.02	MW-105		1 4 1	↓ ↓ ↓		
	.03	MW-102		1 4 1			

RELINQUISHED BY: SIGNATURE/ORGANIZATION	<input type="checkbox"/> Sampler	DATE 11/2/16	TIME 11:00
RECEIVED BY: SIGNATURE/ORGANIZATION			
RELINQUISHED BY: SIGNATURE/ORGANIZATION			
RECEIVED BY: SIGNATURE/ORGANIZATION			
RELINQUISHED BY: SIGNATURE/ORGANIZATION			
RECEIVED BY: SIGNATURE/ORGANIZATION			

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME	
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES: TEMP. ON ARRIVAL
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

ATTACHMENT #4: SOIL ANALYTICAL TABLES

SOIL ANALYTICAL DATA (Metals and Detected VOCs)
RACER - Flint West #12990

	Sample ID		SB124-4	SB124-10	SB124-21	SB125-4	SB125-13	SB125-19	SB126-4	SB126-11	SB126-15	SB127-4	SB127-8	SB127-15	SB127-20	SB128-3	SB128-7	SB128-10	SB129-4	SB129-8	SB129-18	SB130-4	SB130-10	SB130-18	SB131-4	SB131-10	SB131-18				
	Date Collected		4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14					
ANALYTE (ug/kg)	DW	GSI																													
Arsenic	5,800.00	5,800.00	D&G=B	1,130.00	1,100.00	1,830.00	570.00	1,440.00	1,410.00	1,300.00	1,250.00	1,180.00	410.00	1,630.00	2,060.00	1,780.00	500.00	1,550.00	1,150.00	2,790.00	1,740.00	1,460.00	3,580.00	1,700.00	1,980.00	1,630.00	1,300.00	2,080.00			
Chromium	18,000.00	18,000.00	D&G=B	1,220.00	1,460.00	3,350.00	2,050.00	3,260.00	4,240.00	1,220.00	2,920.00	2,870.00	1,980.00	2,560.00	4,540.00	610.00	1,460.00	2,860.00	5,890.00	2,550.00	4,080.00	4,730.00	3,090.00	1,150.00	2,770.00	1,640.00	2,800.00	2,620.00			
Copper	5,800,000.00	120,000.00	GX	1,700.00	2,300.00	8,200.00	7,400.00	6,100.00	11,400.00	3,400.00	5,600.00	1,600.00	3,000.00	5,800.00	1,200.00	3,900.00	5,600.00	5,300.00	13,000.00	3,600.00	7,200.00	17,700.00	1,700.00	9,800.00	8,500.00	3,100.00	7,900.00				
Lead	700,000.00	5,000,000.00	GX	2,510.00	3,120.00	7,580.00	13,800.00	5,100.00	8,590.00	2,280.00	3,790.00	5,470.00	4,710.00	5,740.00	7,330.00	950.00	6,250.00	11,400.00	6,950.00	104,000.00	6,100.00	7,420.00	123,000.00	2,110.00	6,510.00	36,400.00	4,740.00	6,020.00			
Selenium	4,000.00	410.00	G=B					210.00				210.00				160.00				130.00		150.00	140.00								
Zinc	2,400,000.00	2,600,000.00	G=B	4,600.00	5,100.00	19,000.00	11,400.00	12,200.00	20,800.00	5,900.00	8,600.00	14,700.00	3,700.00	10,300.00	20,300.00	2,400.00	6,000.00	13,200.00	9,900.00	21,300.00	13,100.00	19,200.00	51,800.00	5,800.00	18,000.00	16,800.00	13,600.00	18,600.00			
ANALYTE (ug/kg)	DW	GSI																													
2 Butanone (MEK)	260,000.00	44,000.00		45.00	71.00	56.00		165.00	79.00	82.00	150.00	75.00	46.00	66.00	148.00	126.00	44.00	123.00	127.00	40.00	53.00	82.00	69.00	68.00	70.00	79.00	65.00	164.00			
Vinyl Chloride	40.00	260.00							23.00														73.00				90.00				
1,1-Dichloroethene	140.00	2,600.00																								34.00		18.00			
trans-1,2-Dichloroethene	2,000.00	30,000.00																								100.00		62.00			
1,1-Dichloroethane	18,000.00	15,000.00																								69.00		35.00			
cis-1,2-Dichloroethene	1,400.00	12,000.00						58.00				350.00									300.00				6,380.00		2,820.00				
Tetrahydrofuran	1,900.00	220,000.00		170.00	190.00	190.00	150.00	180.00	180.00	140.00	190.00	210.00	190.00	190.00	170.00	190.00	150.00	150.00	140.00	150.00	180.00	180.00	180.00	170.00	160.00	150.00	180.00	160.00			
Chloroform	1,600.00	7,000.00								16.00																					
1,1,1-Trichloroethane	4,000.00	1,800.00								11.00													33.40								
Benzene	100.00	4,000.00																								36.00					
Trichloroethylene	100.00	4,000.00						1,420.00				3,650.00															6,170.00		6,080.00	28.00	
Toluene	16,000.00	5,400.00		11.00																	13.00		19.00	31.00				45.00			
Ethylbenzene	1,500.00	360.00																								15.00					
Total Xylenes	5,600.00	820.00																			21.00		92.00				91.00				
Isopropylbenzene	91,000.00	3,200.00																			16.00		13.00								
n-Propylbenzene	1,600.00	NC																								16.00					
1,2-Dichlorobenzene	14,000.00	280.00																			21.00										
1,2,4-Trimethylbenzene	2,100.00	570.00																			14.00		24.00				22.00				
1,2,3-Trimethylbenzene	NC	NC																			13.50		13.40				11.80				
Naphthalene	35,000.00	730.00		10.80			14.40	17.00		13.70			12.90		14.30			345.70	46.90	39.50	12.50		51.50			100.30					
2-Methylnaphthalene	57,000.00	4,200.00		10.20			14.00	39.00		13.00	19.00	</																			

SOIL ANALYTICAL DATA (Detected VOCs)

RACER - Flint West #12990

	Sample ID		SB132-12	SB132-15	SB133-17	SB133-19	SB133-20
	Date Collected		7/10/14	7/10/14	7/10/14	7/10/14	7/10/14
ANALYTE (ug/kg)	DW	GSI					
2 Butanone (MEK)	260,000.00	44,000.00					
Vinyl Chloride	40.00	260.00		180	89	46	
1,1-Dichloroethene	140.00	2,600.00					
trans-1,2-Dichloroethene	2,000.00	30,000.00				18.00	
1,1-Dichloroethane	18,000.00	15,000.00				13.00	
cis-1,2-Dichloroethene	1,400.00	12,000.00		2200.00	1200.00	1990.00	530.00
Tetrahydrofuran	1,900.00	220,000.00		1500.00	300.00	150.00	160.00
Chloroform	1,600.00	7,000.00					
1,1,1-Trichloroethane	4,000.00	1,800.00				24.90	35.20
Benzene	100.00	4,000.00					
Trichloroethene	100.00	4,000.00		29500	13700	11680	10860
Tetrachloroethene	100.00	1,200.00					17
Toluene	16,000.00	5,400.00					
Ethylbenzene	1,500.00	360.00					
Total Xylenes	5,600.00	820.00					
Isopropylbenzene	91,000.00	3,200.00					
n-Propylbenzene	1,600.00	NC					
1,2 -Dichlorobenzene	14,000.00	280.00					
1,2,4-Trimethylbenzene	2,100.00	570.00					
1,2,3-Trimethylbenzene	NC	NC					
Naphthalene	35,000.00	730.00					
2-Methylnaphthalene	57,000.00	4,200.00				15.00	12.00
							9.20

NOTES:

	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
GX	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

SOIL ANALYTICAL DATA
RACER - Flint West #12990

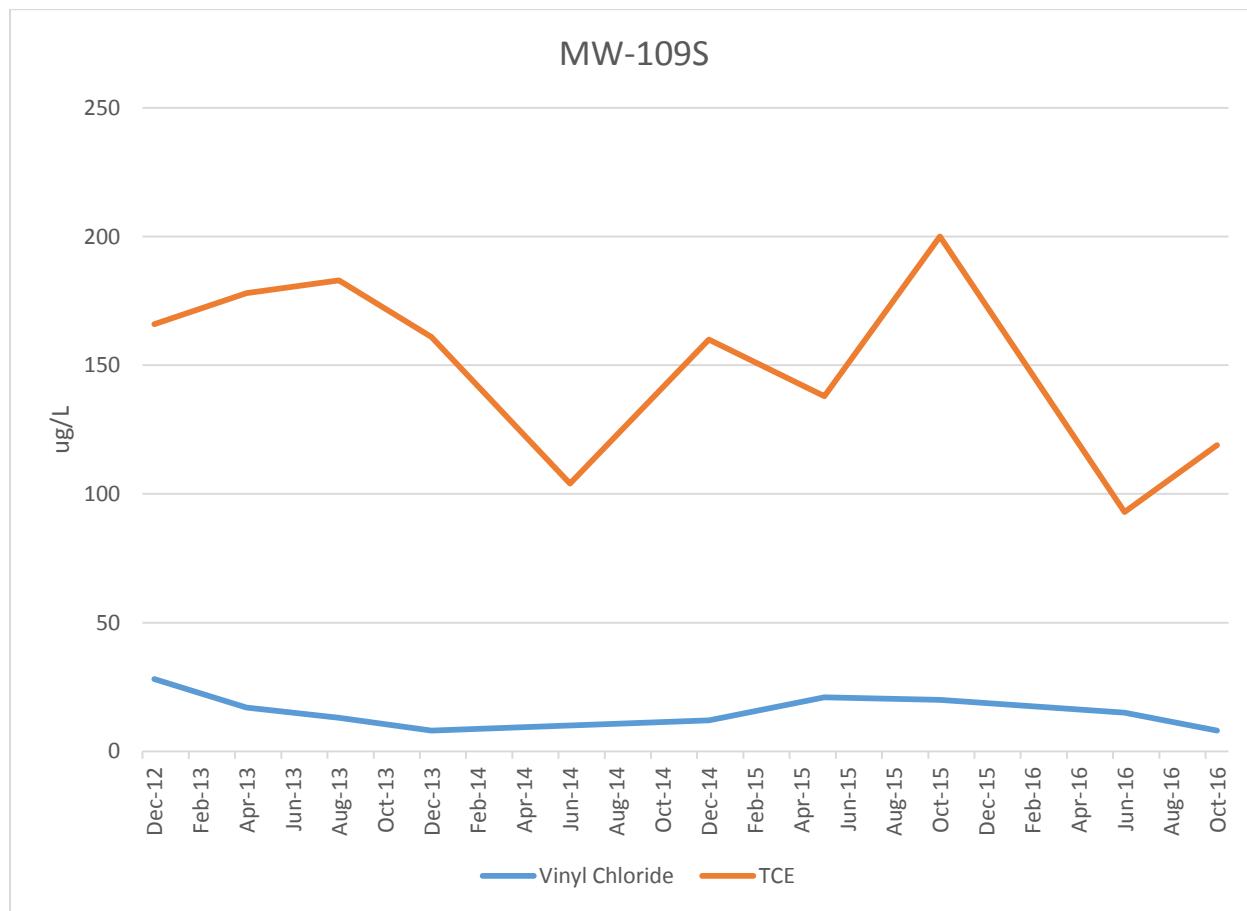
		Sample ID	SB134-18	SB135-19	SB136-19	SB137-18	SB134-20	SB135-21	SB136-21	SB137-20.5
		Date Collected	12/22/14	12/22/14	12/22/14	12/22/14	12/22/14	12/22/14	12/22/14	12/22/14
ANALYTE (ug/kg)	DW	GSI								
Arsenic	4,600	4,600	380	1,900	1,870	1,660	1,690	2,080	3,350	3,040
Cadmium	6,000	5,400	G							
Copper	5,800,000	120,000	G	4,500	4,000	4,600	4,200	3,000	3,900	4,300
Lead	700,000	7,700,000	G	5,690	2,850	3,060	2,810	3,380	2,890	3,740
Selenium	4,000	400								
Zinc	2,400,000	260,000	G	5,900	17,500	13,600	13,500	19,500	15,300	18,800
2 Butanone (MEK)	260,000	44,000								
Vinyl Chloride	40	260			14					56
1,1-Dichloroethene	140	2,600								
trans-1,2-Dichloroethene	2,000	30,000			10.9		14			
1,1-Dichloroethane	18,000	15,000								
cis-1,2-Dichloroethene	1,400	12,000			1,100	340	670	120	800	450
Tetrahydrofuran	1,900	220,000								
Chloroform	1,600	7,000								
1,1,1-Trichloroethane	4,000	1,800				12.5	20.5		8.7	
Benzene	100	4,000								
Trichloroethene	100	4,000			7,890	8,760	4,250	2,040	6,540	9,390
Tetrachloroethene	100	1,200								
Toluene	16,000	5,400		70						
Ethylbenzene	1,500	360		16						
Total Xylenes	5,600	820		85						
Isopropylbenzene	91,000	3,200								
n-Propylbenzene	1,600	NC		14						
1,2 -Dichlorobenzene	14,000	280								
1,2,4-Trimethylbenzene	2,100	570								
1,2,3-Trimethylbenzene	NC	NC								
Naphthalene	35,000	730		36.6						
2-Methylnaphthalene	57,000	4,200		29						

NOTES:

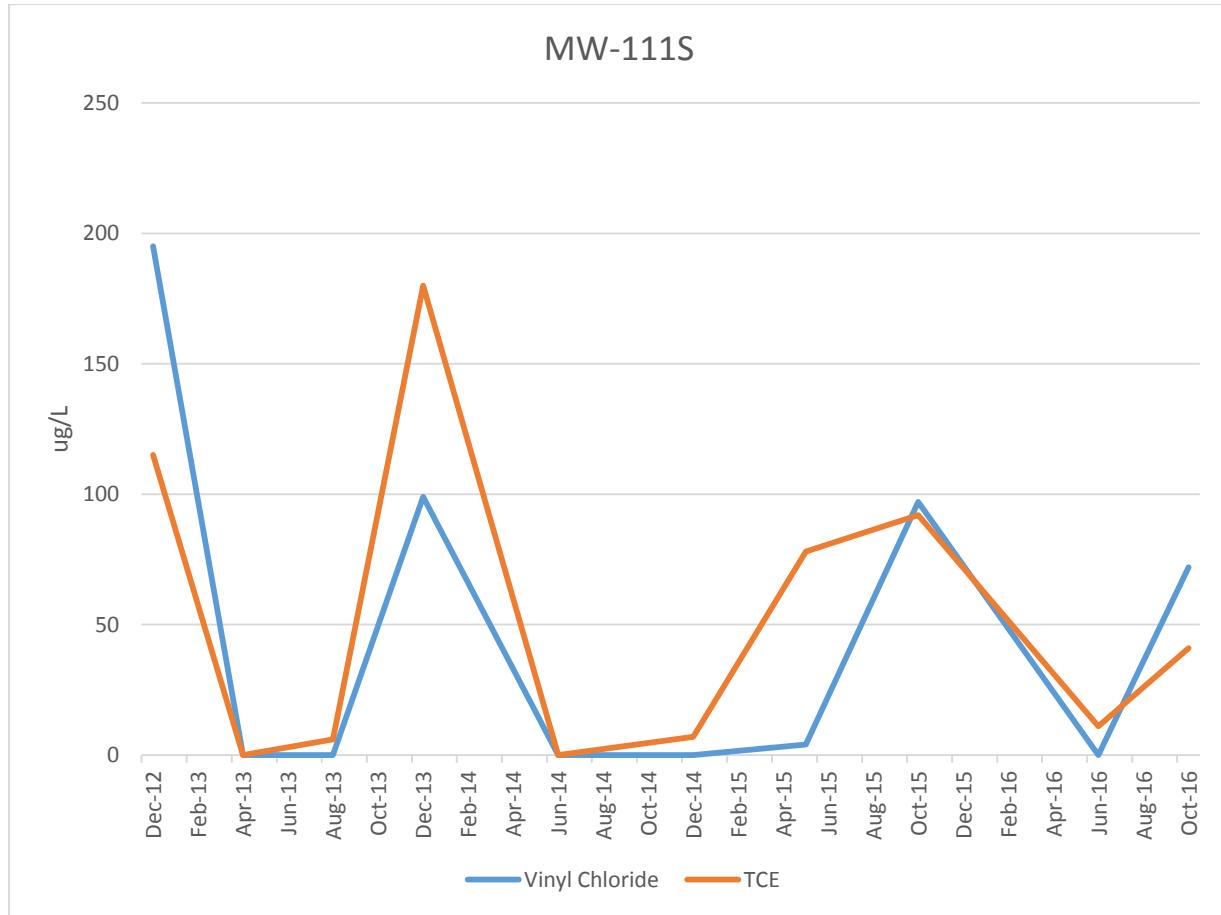
X	Blank cells indicate no detectable concentrations
X	Exceeds residential and non-residential DW criteria
X	Exceeds GSI criteria calculated based on 257ppm total hardness in the Flint River
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
GX	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

ATTACHMENT #5: GROUNDWATER CONTAMINANT CONCENTRATION GRAPHS

RACER Flint West Industrial Land - #12990
Trichloroethylene and Vinyl Chloride Concentrations Over Time



RACER Flint West Industrial Land - #12990
Trichloroethylene and Vinyl Chloride Concentrations Over Time



RACER Flint West Industrial Land - #12990
Trichloroethylene and Vinyl Chloride Concentrations Over Time

